A Course of Twelve Lectures
ON THE
STRUCTURE AND DEVELOPMENT
OF THE
VERTEBRATE SKELETON.

Now being delivered at the Royal College of Surgeons of England,

BY PROFESSOR HUXLEY, F.R.S.

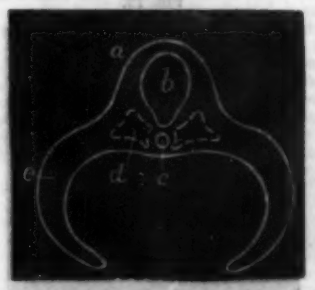
LECTURE III.

MR. PRESIDENT AND GENTLEMEN,—Having now discussed at sufficient length the structure of the human skull, I must pass on to that branch of our inquiry without which that structure remains largely incomprehensible, and without which any sound comparison of the structure of the human skull with the skull of the lower animals becomes altogether imperfect. I therefore propose to devote to-day's lecture to an account of the development of the human skull; and, as preliminary to that, I must repeat a little of what I have already stated with respect to the process of development in vertebrate animals generally.

Of the earliest stages in man himself we are almost necessarily ignorant—of the very earliest, that is to say—because anyone who is acquainted with this kind of inquiry can readily comprehend that it is almost impracticable to obtain in the human subject the very earliest conditions which immediately follow impregnation and accompany the first changes or first steps in development. But the resemblance between the human embryo in its exceedingly young condition and the embryos of the lower animals is so complete that there is no chance of error creeping in, if we take as the subject of the study of the earlier forms of development of the human embryo, the lower forms of animal life—the lower vertebrata—such as the dog and the chick. There cannot be the least doubt, I repeat, that from the first steps after impregnation up to the earliest condition in which the human embryo has been observed, the processes are essentially the same in the whole of the vertebrata. Therefore, in speaking of the first steps of human development, I shall, without hesitation, draw upon what we know of the development of the lower vertebrata—of dogs, birds, snakes, and so on.

I will not go through the process of the yelk division, or the first formation of that lamellar substance, known as the blastoderm, which lies upon the substance of the yelk. I will suppose that layer is completely developed, and that we have upon the surface the primitive depression known as the streak or groove, and which in transverse sections, as I have already explained, has the appearance of a depression bounded on each side by a ridge, the ridges passing one another in front and behind. There is no doubt at all that this is the very earliest condition of the human embryo, because we absolutely do know human embryos very little advanced beyond this point, (Dr. Allen Thompson has described one in which the development of the young being has gone very little further,) where you have merely the two dorsal folds and the interspace between them, which constitutes the foundation of the spinal cord and of the cranium. After a while, as I have already stated, these lamellæ grow up, and eventually unite in the middle line, and thus form the upper canal (Fig. 11, *a*, *b*); and then the visceral plates grow downwards, so as to constrict the body upon the surface of the yelk (Fig. 11, *c*); and thus you have a second tube formed, which does not completely close, and which becomes the rudiments of the walls of the body, the walls of the thorax and the abdomen, just as the other is the rudiment of the spinal canal and cranium. But before this union has taken place at the one extremity of the groove, so as to convert that

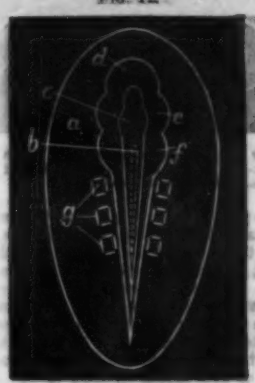
FIG. 11.



Section of an early human embryo. *a*, Dorsal laminæ closed over nervous system (*b*). *c*, Notochord. *d*, Pre-vertebral plate. *e*, Visceral laminæ.

primary groove into a complete canal, a dilatation has taken place at the one extremity of the groove. It has become larger, and the sides of the larger portion in a short time become constricted, so as to give rise to three vesicles. At first these are simply three dilations, but when the side parts of this anterior chamber become arched over and united above, they of course become converted into three vesicles. While this has been going on, the

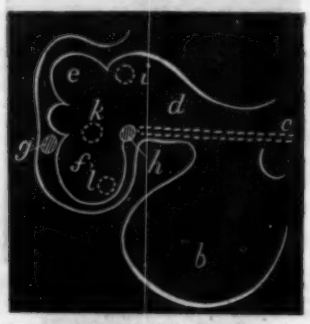
FIG. 12.



An early human embryo seen from above. *a*, Germinal membrane. *b*, Notochord. *c*, Cavity of nervous system. *d*, Anterior cerebral vesicle. *e*, Middle ditto. *f*, Third ditto. *g*, Somatomes, or pre-vertebral plates.

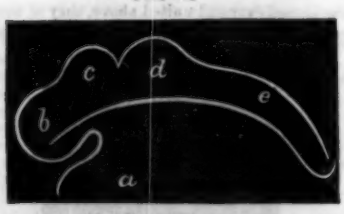
notochord, of which I spoke in an earlier lecture, has become developed in the middle line of the partition between the neural canal and the visceral canal underneath. The notochord therefore occupies such a position as this (Fig. 11, *c*), underneath the floor of the canal for the future chamber of the nervous system; but that notochord has never yet been traced completely to the anterior extremity of the neural cavity. In the earliest stages in which it has been observed, and in its most complete condition, you always find that it stops short about this point (Fig. 13, *b*), underneath the middle vesicle, by a pointed extremity. While the development of the notochord, of the three vesicles, and so on, has been taking place, a peculiar change has occurred in the disposition of the floor of the neural cavity. At first, if you take a side view of the two folds or lamellæ, these being the three dilated portions (Fig. 14, *b*, *c*, *d*), they have somewhat that appearance (Fig. 14); but before long this part becomes constricted off from the surface of the blastoderm generally, this portion (Fig. 13, *b*,) becoming the yelk-bag. And then (I am obliged to describe consecutively the processes that take place in point of fact simultaneously; but these are essential steps of the process) before long the anterior vesicle bends down quite sharply, so that the middle vesicle forms the anterior extremity of the body, and the posterior

FIG. 13.



Side view of anterior part of early human embryo. *b*, Yelk-sac. *c*, Notochord. *d*, Third cerebral vesicle. *e*, Middle ditto (dividing). *f*, Anterior ditto. *g*, Rudiment of pineal gland. *h*, Rudiment of pituitary body. *i*, Rudiment of auditory capsule. *k*, Rudiment of eye. *l*, Rudiment of olfactory capsule.

FIG. 14.



Side view of a still earlier condition of human embryo. *a*, Yelk-sac. *b*, *c*, *d*, First, second, and third cerebral vesicles. *e*, Rudiment of spinal cord.

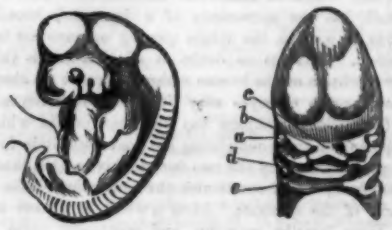
vesicle has this position (Fig. 13, *f*). Now the anterior extremity of the body has this form (Fig. 13), and here (*b*) is the yelk-bag. Under these circumstances, the notochord, extending along the floor, goes no further than the middle cerebral vesicle (Fig. 13, *c*, *h*). After a little while, the anterior cerebral vesicle divides into two portions by a sort of constriction (Fig. 13, *e*). You have the anterior vesicle separated from the posterior one; the posterior one gives rise underneath to a glandular prominence, which is the future pituitary body (Fig. 13, *h*); the top part of this hinder division of the anterior vesicle gives rise to a second prominence, which becomes terminated by a gland known as the pineal gland (Fig. 13, *g*); and these two structures, of whose function we know nothing, are developed long before the bony skeleton and the cartilaginous skeleton, while the whole of the endoskeleton is in a soft cartilaginous state. It is on these grounds that these two apparently useless glands are such exceedingly valuable landmarks and means of identifying bones, because these being the parts first formed, and always retaining their primary position, you are able to identify other bones or parts that are developed by their position before or behind these.

Before we reach this stage, in fact while the neural arch, the upper canal, was still open, a very peculiar change began to take place here, upon each side of the primitive lamella of the embryo. The notochord extends backwards towards the hinder part of the body, and at this point, behind the cerebral vesicle, there are developed upon each side a series of square-looking masses, in pairs (Fig. 12, *g*). These square masses are the result of a peculiar thickening of the tissue, entirely cellular. A peculiar aggregation of the elements of the tissue takes place here, being more opaque than the other tissue; they give rise to these quadrate bodies, those bodies which, after the example of Remak and others, might be called the proto-vertebræ, as developing the primitive bodies of the vertebræ; but Remak has shown (and I have verified his observations) that these are much more than bodies of the vertebræ; that they contain not only the bodies of the primitive vertebræ, but also a pair of the dorsal ganglia, the anterior roots of the spinal nerves, and besides that, the rudiments of the dorsal muscles; so that they are rudiments of a number of structures, not merely of the vertebræ. They split up into three primary constituents. I do not propose to follow out their course now; that will be a subject for consideration when we have to deal with the spinal column. What I wish to point out to you is a very essential matter, to which I shall have to refer by-and-by, that even in this early stage there is an essential fundamental difference between the spinal column and the skull; that this differentiation into quadrate masses upon each side of the notochord takes place throughout the length of the spinal column, and stops when you come to the skull. In this early condition there is an entire difference in developmental state between the skull and the vertebral column. That will be an important consideration when we come to consider what are the real relations between the skull and vertebral column.

Having taken the embryo in this condition, the external form of it is pretty nearly that which is shown in this diagram* of a young embryo at three weeks, copied from Ecker's very beautiful Atlas. No. 1 is the anterior cerebral vesicle, (the distinction into two parts is not shown;) No. 2 is the middle cephalic vesicle; No. 3 the posterior cephalic vesicle. Then the bending over of the anterior vesicle here indicates the extent of the cerebral flexure. It is extraordinary to observe that the anterior part is, as it were, bent almost to a right angle with the general line of the spine. Furthermore, there should be, if it were possible to see them, three depressions of the integument. These three depressions of the integument are the rudiments of the three pairs of organs of the principal senses—that is, the olfactory, the optic, and the auditory organs. It seems a most extraordinary thing that each of these complex organs should, in fact, arise as an involution of the skin. I confess I was very sceptical about the matter myself, notwithstanding the very carefully detailed observations of Remak upon the subject in his excellent work upon the Development of the Chick; but a year or two ago I made it my business to go over the matter upon the chick, and there cannot be the slightest doubt about it; it is perfectly easy, with a little pains, to verify every statement of his. There is no doubt that these three pairs of organs arise in this manner; that the nasal apertures arise as involutions of integument, pushings in of the integument, in fact; that the eyes and ears arise as similar involutions. In the chick it is not difficult, if you get it at the exact period, to see the internal ear commencing with a little bag, a hole opening externally; that eventually gets shut off, and a portion becomes converted into the labyrinth of the internal ear. I cannot, however, go into that now; but it is interesting to observe, that even at this early stage the three pairs of principal sensory organs arise in this manner, as three involutions of the external integument, so that they take their places at the sides of the skull at a very early period of its development.

Then some further very singular changes have taken place. The cavity of the pharynx has come to be developed under the base of the skull, and the side walls of the skull, the descending portions of visceral lamina at this part, have become divided into four or five separate arches by what are at first mere grooves, but which afterwards become converted into separate processes, in consequence of these grooves becoming converted into slits; so that at length you have as many as at least four visceral arches, separated by four if not five visceral clefts. The clefts go right through the opening

FIG. 15.



Side view of human embryo of fifth week, and front view of head of ditto more enlarged. *a*, Rudiment of eye. *b*, Maxillary rudiment. *c*, Nasal frontal process. *d*, Rudiment of lower jaw, or first facial arch. *e*, Second ditto, or hyoid arch.

into the cavity of the pharynx, so that in this condition the human embryo is in the same state in one respect as a fish, in a rough sort of way; that is, there are openings communicating between the exterior and the cavity of the pharynx. But I may

* One of the numerous diagrams exhibited by the lecturer.

observe at once, there are no branchial tufts upon these arches, and most of them have no homology with the branchial apparatus of fishes, but there is that sort of rough resemblance which led embryologists at one time to speak of the higher vertebrata passing through the piscine condition—a rough metaphor which has no precision or exactness about it, and which led to evil consequences, as all these things do; but it was tolerable in its day.

That is the condition in which the skull exists in the earliest period. I do not propose to enter into a further disquisition upon the nature of the parts of these different embryos; all that we are concerned about now is the character of the skull. All I would show you is, that after a little while, this first visceral arch (Fig. 15, *d*), which eventually becomes the lower jaw, has developed in continuation with it, along this part of the base of the skull, under the first cerebral vesicle, a little process (Fig. 15, *b*). So that if you look at the under surface of the skull, here are the anterior cerebral vesicles (Fig. 15); this is the cavity of the mouth (Fig. 15, *c*, *d*); here is the first visceral arch (Fig. 15, *d*); and here is the maxillary process (Fig. 15, *b*), as it is termed, which is developed from the fore part of the base of the skull in connexion with the first visceral arch, and extends along the under side of it. Then, after a while, a median process is developed here (Fig. 15, *c*), called the frontal nasal, sometimes the nasal process, from the middle line of the skull. The olfactory sacs are here, one on each side (Fig. 15, between *b* & *c*); and you may imagine that, as they are developed, instead of pushing back into the cavity of the skull, the substance of the front wall of the cranium is developed out between, so that there is a partition between the olfactory sacs, and that dilates at the end in the fashion you see here (Fig. 15, *c*). Now, therefore, the nasal sacs are situated further back, in consequence of the growth forward of this median process (Fig. 15, *c*), and in this manner the olfactory chambers are first formed. After a time the two outer processes of this frontal nasal portion become united with the two maxillary processes, and the union not being completed inside, there is left a passage between the nasal chamber and the cavity of the mouth. That is what I defined before as the median nostril; the posterior nostril is not formed until afterwards.

FIG. 16.

Front view of head of human embryo (eighth week), enlarged.

Having given this general description, you can easily fill up by imagination the processes between this stage and that (Figs. 15 & 16); and there is but a step, although a tolerably wide one, between that and the ordinary human physiognomy; at any rate, it is easy to understand how it becomes converted into the ordinary human physiognomy.

Having given this view of the structure of the exterior form of the skull, and the mode of its origin, I must now turn to the conditions of the skeleton lying within it. In the first place, the endoskeleton is entirely membranous, composed altogether of indifferent tissue, except the notochord, which lies in the middle of the partition between the visceral and the nervous chambers. That notochord is contained within a structureless sheath, and consists of a cellular substance, undergoes very few changes, and disappears at a very early period of fœtal development; but it forms, as it were, a sort of central scaffolding rod, round which the rest of the skeleton is developed. In the vertebral column at an earlier period a part of each of these proto-vertebræ becomes converted into a cartilaginous mass, which surrounds the notochord, and forms the body and the upper arch of a cartilaginous vertebra; and there are as many of these cartilaginous vertebræ as there are proto-vertebræ. That is a very definite character of the spinal column. But in the skull (and this is a second most important distinction between the skull and the vertebral column) no such deposit of separate masses of cartilage takes place. But another process occurs, which is very curious, and it is this (Fig. 17). Let this be the notochord (Fig. 17, *a*); suppose we are looking down upon the base of the skull, here is where the first proto-vertebra, as we might call it, would be placed (Fig 17, behind *a*) —that is the vertebra which would become the atlas, forming its ring; and here would be the pituitary body in front of the end of the notochord (Fig. 17, *f*.) Now, a mass of cartilage is developed upon the base of the skull upon each side of the notochord, and it gradually invests it (Fig. 17, *d*); and when it comes to the anterior end of the notochord, it is not continued forwards as a single mass, but it divides into two principal portions (Fig. 17, *g*); those extend forward in front of the pituitary body, and having passed in front of the pituitary body they unite, and then they form a common solid, cartilaginous mass, which extends forward into the frontal nasal process, (Fig. 17, *h*), subsequently forms the support of the middle line of the nose, and sends down eventually a process upon each side into this little outward continuation of the nasal frontal process, which is the pre-maxilla. So that at length you have a cartilaginous skeleton formed (looking upon it from above) of this shape (Fig. 17). You see how entirely different this is from anything that occurs in the spinal column; it is totally and absolutely different in its developmental character.

FIG. 17.

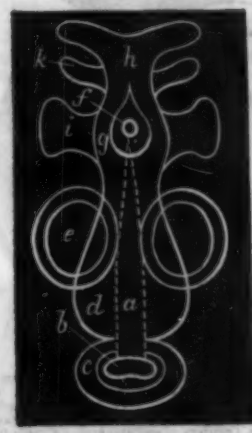


Diagram showing the chondro-cranium of human embryo. *a*, Notochord. *b*, Foramen magnum. *c*, Occipital arch. *d*, Investing mass. *e*, Auditory capsule. *f*, Pituitary body. *g*, Trabeculæ. *h*, Ethmo-vomerine cartilage. *i*, Ala magna. *k*, Ala parva.

The auditory capsules, as I have already stated, extend in from the sides of the skull, and, being placed in this region of the skull, of course they come to be about here (Fig. 17, *e*). They rapidly enlarge and undergo those changes which convert them into the internal labyrinth; but that which is most important for my purpose now is, that they become shut off from the exterior and surrounded with a mass of cartilage, and that that mass of cartilage becomes connected completely with the basal cartilage of the skull. In the very young tadpole, there is a time when you can turn out the cartilages of the auditory capsules, but eventually they become anchylosed, so that now they appear to form integral parts of the cartilaginous cranium. Then, after a while, arches of cartilage grow up here (Fig. 17, *c*) upon each side, and form a ring round the foramen magnum (*b*). These arches of cartilage become continuous at the sides with the auditory capsules here (Fig. 17, *c*, *e*); and then, in front of the auditory capsules, from this part (Fig. 17, *e*) to these processes (Fig. 17, *g*), which are called trabeculæ of the cranium, there grow out another pair of cartilaginous processes (Fig. 17, *i*); and then in front another pair of cartilaginous processes (Fig. 17, *k*); and then this portion (Fig. 17, *h*), having become compressed from side to side, throws out an arch above its upper surface, which arches over the roof of the nasal cavities. Thus you have the primitive membranous cranium succeeded by a cartilaginous cranium—that which is very often called the primordial cranium, but wrongly so, because there is a cranium which precedes it, which is the membranous cranium. This primordial or chondro-cranium, as it ought to be called, is represented in this diagram of a young fœtus of about the third month (Fig. 18). We are looking from above. Here is the occipital foramen (right of *b*); here are two lateral portions of cartilage surrounding it (Fig. 18, *c*); here is the basal portion of the cartilage (front of *a*); here the sella turcica (Fig. 18, *d*); and in this condition of things the two trabeculæ have become united; they are flattened together, and at last form a complete cartilaginous floor; in fact, the place where they unite underneath forms the floor of the sella turcica. Then in front this part is continued forward, and is produced out into these two processes (Fig. 18, *g*), the orbital wings of the sphenoid. Here is the lamina perpendicularis of the ethmoid in cartilage (Fig. 18, *h*); and here upon each side the two processes which lap over from its sides and form the lateral walls

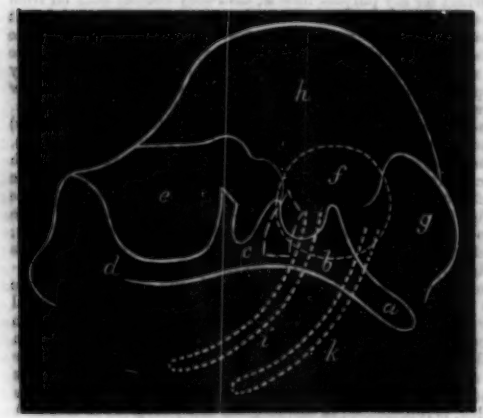
of the nasal chambers (Fig. 18). Little processes of cartilage

FIG. 18.

Chondro-cranium of human fœtus of third month seen from above (Kölliker). *a*, Basi-occipital ossification. *b*, Ex-occipital. *c**, Chondrous portion of supra-occipital; behind and above is the membranous (inter-parietal) portion. *c*, Cartilage of occipital arch. *d*, Sella turcica with symmetrical osseous points (basi-sphenoid). *e*, Ala magna. *f*, Pre-sphenoidal region and optic foramina. *g*, Ala parva. *h*, Lamina perpendicularis, with roofs of olfactory sacs on each side.

are developed from the inside of these, and those becoming the lateral masses of the ethmoid and the inferior turbinal bone. So that, if we take a side view of the cartilaginous cranium, we shall find it to have this form (Fig. 19). This is the front

FIG. 19.



Side view of chondro-cranium with membranous roof, and first and second facial cartilages. *a*, Basi-occipital region. *b*, Basi sphenoidal. *c*, Pre-sphenoidal. Between *b* and *c* is the ala magna; in front of and above *c* is the ala parva. *d*, Nasal septum. *e*, Alar roof of lateral ethmoids. *f*, Auditory sac. *g*, Occipital arch. *h*, Membranous roof of skull. *i*, Meckel's cartilage. *k*, Cartilage of hyoid arch.

part of it (Fig. 19, *d*, *e*), and here are those plates that overlap the olfactory organ; here is the nasal septum (*d*); here is the portion which corresponds with this (*c*, *b*, *a*); here are two lateral wings (between *c* & *e*); here is the sella turcica (above *b*); there is the part which will form in future the basi-occipital (*a*); here are the two lateral portions which arch over (*g*); here will be the auditory capsules (*f*); and here the plates which are the future ali sphenoids (between *c* & *b*). So that you observe there is a complete continuous cartilaginous box formed, which is altogether incomplete above; the upper part of the skull being formed by nothing but membrane—mere fibres of membrane: that is an exceedingly important matter.

At the same time that these changes have taken place in the base of the skull, certain rods of cartilage have been developed in the visceral arches, but there are only two that are worthy of our particular attention (Fig. 19, *i*, *k*). It is very probable that these rods of cartilage were primitively connected with the base of the skull, but when you first meet with them they are connected with the front and back part of the auditory capsules. One of them is in front, and runs down in the first visceral arch—that is, in that visceral arch which forms the lower jaw. The second cartilaginous rod runs down in the same way in the second visceral arch; this will eventually become the smaller cornu of the hyoidean and stylo-hyoid ligament and the styloid process. Those are all the parts of the cartilaginous cranium of which I need speak at this moment. The face may be dealt with by itself.

And now, leaving the chondro-cranium, we may pass on to consider how the osseous cranium is formed. For you will observe that in man, as in all the higher vertebrata, there are no less than three distinct crania developed one upon another: the membranous cranium first, the chondro-cranium second, and the osteo-cranium third. Here it will be convenient to take the parts of the basal axis first. Very early there is a single centre of ossification formed here (Fig. 18, *a*), close by the front edge of the foramen magnum, which is the rudiment of the basi-occipital bone. After that, there is developed in the front part of the sella turcica either two or a single osseous centre (Fig. 18, *d*): I imagine two is more commonly the rule, although it is a little difficult to be quite certain on the point. These two—supposing them to be two to begin with—eventually unite together and become a single osseous centre, thus forming the rudiments of the basi-sphenoid, which then extends backwards, as we shall see by-and-by, and eventually, as we all know, unites after birth with the basi-occipital. At a later period still (this is a point upon which there has been a great deal of discussion: we can only tell what appears at present; it may prove to be otherwise by-and-by, but it makes no essential difference) there appear a couple of centres of ossification here (Fig. 18, *f*), which unite into one, thus becoming the body of the pre-sphenoid; and then, after birth, there appears an ossification of the ethmoid, which becomes the lamina perpendicularis of the ethmoid (Fig. 18, *h*). So that you will observe there was never any distinction of parts in the base of the skull as there is in the vertebral column. It is an entirely erroneous statement to speak of the anchylosis of the primitive vertebræ in the skull. Such things do not exist. There is a differentiation of primarily homogeneous cartilage into separate parts in consequence of the process of ossification; that is as different from anchylosis of separate parts as can well be imagined. Then at length upon the under surface of the vomer there is developed an osseous centre, not from cartilage, but from the perichondrium surrounding the cartilage which forms the vomer; so that you will observe that is a very important difference between the basi-occipital and the basi-sphenoid, and the pre-sphenoid, and the lamina perpendicularis, and the vomer. The first four are developed from cartilage—are the result of the ossification from cartilage; the last is developed from perichondrium, and not from cartilage at all. Why this should be is not at all clear; but it is a very important distinction, and it is one which we shall find apply as well to the upper and lateral arches of the skull as to the inferior basal portions.

We must now pass on to consider the lateral arches. In the hindermost segment of the skull a centre of ossification appears very early upon the side of the occipital foramen, and constitutes the ex-occipital (Fig. 18, *b*). A centre of ossification appears above the occipital foramen, and constitutes the lower part of the supra-occipital—that is to say, all that part which lies here beneath the torcular Herophili and beneath the occipital tubercle on the outer side of the occipital bone (Fig. 18, *c**); for it is most curious that the upper part of the occipital bone in man has a totally different origin from the lower part, and that is a point which is well worthy of being taken into consideration. The upper part, in fact, arises as an ossification of membrane—not of cartilage at all; it is not preceded by cartilage in any way (Fig. 18, above *c**). Thus you have the elements of the sub-occipital segment developed; and with advancing age what takes place is that

these enlarge, encroach more and more upon the cartilage, and at length they all, after birth, unite together so as to form that which we know as the occipital bone. The basi-sphenoidal centres of ossification, after having anchylosed together, extend backwards. Then at a very early period indeed the little cartilaginous processes, which were placed (Fig. 18, *e*) in front of the foramen for the fifth nerve, become ossified, and eventually, though not until after birth, they become united with the central mass (Fig. 18, *d*) formed by the basi-sphenoid; and thus you have the basi-sphenoid and the ali-sphenoids united together. The parietals, like the upper supra-occipital piece, have no cartilaginous predecessor at all, but they are developed in the fibrous membrane which is continuous with the periosteum and perichondrium, and eventually become connected in the way we all know with the ali-sphenoids. Then the pre-sphenoid having been formed, and the orbito-sphenoids become ossified by centres of ossification, which are placed here (Fig. 18, *g*) near the anterior clinoid processes, that ossification extends outwards, and converts the orbito-sphenoids at a tolerably early period into a complete mass of bone; and these orbito-sphenoids go inwards and encroach upon the body of the pre-sphenoid, so that many have doubted whether there was any true pre-sphenoid. But I believe there is one; at any rate, at an early period these three unite, and they also, not till after birth however, unite with the basi-sphenoid. The basi-sphenoid, encroaching upon the synchondrosis, unites with the basi-occipital. Thus you have that long continuous axis which we know in the human adult skull.

The frontals which belong to this segment are in the same case as the parietals; they have no cartilaginous predecessor at all, but they are developed from the membrane which extends forwards over the roof of the skull, and corresponds with the periosteum, perichondrium, and such like structures.

That is the manner in which the bony skull, or at least the upper arches of the basal axis, are developed in connexion with the cartilaginous and membranous cranium. We now have to consider in what way those bones are formed which surround the nasal capsules. The only bones among these which are formed out of cartilage are the lamina perpendicularis of the ethmoid and the spongy bones. If you make a transverse section through the nasal cavities, it will have this form (Fig. 20.) All this will be cartilage (Fig. 20, *c*, *b*, *e*).

FIG. 20.

Section of lamina perpendicularis and its ala. *a*, Vomer. *b*, Vertical ethmoid. *c*, One of the alæ. *d*, Nasal. *e*, Upper and middle spongy bones, or lateral ethmoid. *f*, Inferior spongy bone.

A centre of ossification is developed here in the lateral masses (Fig. 20, *e*), those lateral masses having grown inwards to form the upper spongy bones, and here the middle spongy bone (Fig. 20, *e*). These become ossified, and become the lateral masses of the ethmoid; but you see they are first altogether distinct bones. Then an ossification takes place here in the lamina perpendicularis (Fig. 20, *b*), and also in the inferior spongy bone (Fig. 20, *f*). These are all chondrous bones, if I may so say; but the vomer, as I stated, is developed from the perichondrium upon the lower surface (Fig. 20, *a*), so that they are in the same case as the parietals, or frontals, or the upper part of the occipital, while these are in the same case as bones developed from true cartilage. The bones of Bertin, so far as is known at present, at the back part of the olfactory capsule, where it extends to the sides of the pre-sphenoid, are said to be developed from perichondrium, at any rate from periosteum, and not to have any chondrous predecessor. The nasals also are perichondrial bones (Fig. 20, *d*).

Then what remains with regard to the side walls of the skull is to understand the development of the temporal bone, and this is a very complex and difficult matter. Indeed, from the want of understanding the development of the temporal bone, (I speak now as much for myself as for my fellows,) the identification of the different bones which appear in the skull of the lower vertebrata has been thrown into a state of great confusion. But this has arisen from the very curious diversity of statement which is to be found in anatomical works and works on human anatomy respecting the mode of development of the petrous bone. It may be worth while to point out the leading features in its very curious history, so that we may know exactly how this bone is developed. One of the best statements about the ossification of the temporal bone is in Kerckringius's work, published about 1670. He states, with great justness, that one of the first parts to appear in the temporal bone is the squamosal portion, which is developed from periosteum. He did not know that, but it has since been

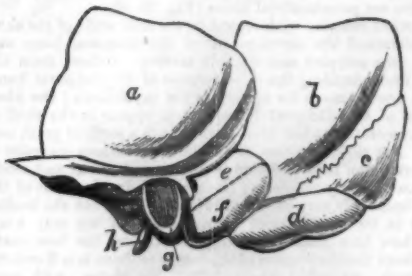
FIG. 21.

Skull of human embryo, with ossification far advanced. *a*, Squamosal, in front of it the ala magna. *b*, Frontal. *c*, Parietal. *d*, Supra-occipital. *d*', its inter-parietal portion. *e*, Ex-occipital; below it is the basi-occipital. *f*, Prootic. *g*, Epiotic. *h*, Opisthotic. *i*, Tympanic, and membrana tympani. *k*, Styloid. *l*, Meckel's cartilage. *m*, Mandible. *n*, Maxilla. *o*, Pro-maxilla. *p*, Nasal. *q*, Ala nasi. *r*, Jugal.

found to be developed from periosteum on the outer side of the skull (Fig. 21, *a*). If you take a fœtus from the third month or thereabouts, you will see the squamosal bone already perfectly developed, and quite in its normal character. In the next place comes the tympanic bone (Fig. 21, *i*)—that is to say, that portion which forms the auditory meatus, or lower part of it, which I have described. That is developed exceedingly early; it begins at first as a very slender, incomplete ring of bone — which is shown here in a much older state (Fig. 22, *g*); a mere slender filamentous ring of bone, also developed from membrane, having no cartilaginous predecessor. But at the time (say about the third or fourth month) in which all the rest of the temporal bone is entirely cartilaginous you have, as it were, lying on its outer surface in the membranous substance connected with it, the squamosal element quite readily recognisable, as it is in a form which is very similar to that which it ultimately possesses, and the tympanic as a mere ring open above. All the rest of what we call the petrous bone—all this portion (Fig. 22, *e*), and all that which is known by human anatomists as the mastoid process (Fig. 22, *f*) —is in this condition entirely cartilaginous, and you will see it very well in some of these specimens† Kerckringius was perfectly aware of that, and he states it; but he states, "In the fourth month there is nothing at all osseous in the petrosal bone," (by which he means what we call the petrous and the mastoid,) "except a little thickish, uneven-shaped line of bone which lies underneath the annulus or circulus," as he calls it, by which he means the tympanic bone. If you will examine this specimen by-and-by, you will see that which Kerckringius

† Fœtal skeletons prepared by Mr. Mackmurdo, and exhibited by the lecturer.

FIG. 22.



Temporal and occipital bones of a human fœtus further advanced. *a*, Squamosal. *b*, Part of parietal. *c*, Supra-occipital. *d*, Ex-occipital. *e*, Prootic. *f*, Epiotic and opisthotic. *g*, Tympanic. *h*, Styloid.

describes. In this little fœtus there is a rudimentary squamosal; here is the lower jaw articulating with it; here is the circulus or annulus, which is the tympanic.† All this (Fig. 23, *b*)

FIG. 23.

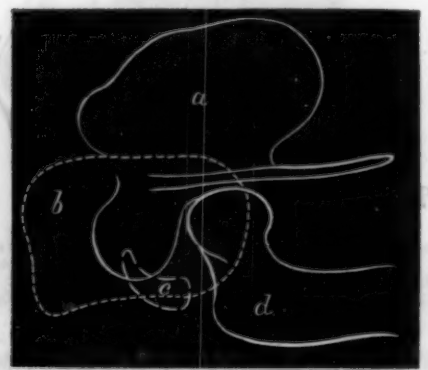


Diagram showing the first appearance of bone in the periotic capsule. *a*, Squamosal. *b*, Epiotic region of periotic capsule. *c*, Prootic. *d*, Mandible.

is cartilaginous; but there is exactly this little thin line of bone which he describes lying underneath the surface (Fig. 23, *c*). Then "in the fifth month," he goes on to say, "that portion of petrosal bone which has formed" (he means will form) "the mamillary process" (that is the mastoid process) "has acquired three new bones—one of a pyriform aspect, with its sharper

FIG. 24.

Fœtal temporal bone of man. *a*, Squamosal. *b*, Basi-occipital. *b**, Ex-occipital. *c*, Periotic capsule. *d*, Prootic. *e*, Epiotic. *f*, Opisthotic. *g*, Cochlea.

part close to the squamosal (Fig. 24, *d*); another having the shape of an oval shield (Fig. 24, *e*), and hardly smaller than the foregoing, but separated by a cartilaginous line from it; and a third, of a smaller size, lying underneath these (Fig. 24, *f*). Now, just as we had one condition here justifying Kerckringius's

† See note on p. 351.

statement, so there is another condition in one of these skeletons—these beautiful skeletons prepared by Mr. Mackmurdo—which justifies the other. Take the same bones again; here is the squamosal as before (Fig. 21, *a*); here is the cartilaginous part lying behind it, which will become eventually the mamillary process; here is the little pyriform bone in close juxtaposition with the squamosal (Fig. 21, *f*); here is the bone forming the scutum ovale (Fig. 21, *g*); and then there is the third bit of bone (Fig. 21, *h*). There is no doubt that the three structures exist. Kerckringius goes on to describe perfectly and accurately (you can trace the process in these specimens and the diagrams, which are from specimens in my own possession) how the three bones unite together into two, and how at length they constitute this large mass. You may verify this with the utmost ease from these specimens.

After Kerckringius came Cassebohm, who wrote well upon the subject, but did not quite understand what Kerckringius had done. The main addition was this: he said he had seen that little bone which lies under the annulus of which Kerckringius spoke, and he said (which is a very important point) that this little bone situated here was connected with the fenestra rotunda, and eventually surrounded it, and extended upon the base of the petrosal portion. Well, that was a very definite addition to our knowledge of the ossification of the petrosal bone—more than Kerckringius knew; but, on the other hand, Cassebohm has thrown no light upon the meaning of these "tria ossicula" of Kerckringius.

There is not much worthy of attention in Nesbitt's Osteology—the next in order. The next solid addition of any moment was made by Meckel in his "Archiv." He says that in the first place the squamosal bone is formed; then he goes on to say that ossification of the petrosal takes place in at least two places, and one of these—that is, the posterior—is that which is the foundation of the mastoid; and he says it is a curious thing, indeed, that the mastoid should be formed in this way by a separate centre of ossification. Afterwards, in his admirable system of human anatomy, he goes further into the matter, and makes a statement which is exactly and precisely correct, which has been forgotten by almost everybody since, and I confess it escaped my memory till my attention was called to it by reading Professor Kölliker's late work upon Development. Now, that third internal shell, although Meckel does not seem to have acquainted himself with Kerckringius's view, is one of the "tria ossicula" of Kerckringius. It is developed here (Fig. 21, *g*), as Meckel properly says, upon the posterior vertical semicircular canal, but he did not identify it with Kerckringius's centre. (Kerckringius: "Opera Omnia Anatomica," page 222, ed. 1717.) This was perfectly accurate. No doubt Meckel's statement is correct. (See his "Handbuch der Menschlichen Anatomie," 4th band, p. 49 *et seq.*, sec. 1949, div. 4.)

Hallmann, in his comparative osteology of the temporal bone, says he saw two of the tria ossa of Kerckringius; but he does not explain them: and there is no further good definite statement until we come to Kölliker's work in 1861, where he states that the petro-mastoid part of the temporal bone ossifies by three centres: one of them formed in connexion with the anterior vertical semicircular canal, one in connexion with the cochlea and the fenestra rotunda, and the third formed upon the posterior vertical semicircular canal, this last becoming the process which we know as the mastoid.

What, then, was the meaning of the tria ossa of Kerckringius? In working over this matter rather carefully, that meaning has come out to be very plain. Kerckringius is perfectly correct. He did not endeavour to interpret phenomena; he merely stated them as he saw them. The interpretation of them, unless I greatly mistake, is this. Here is the condition which he describes: this is the anterior os (Fig. 21, *f*); this is the shield—like one (*g*); and this the little pin's-head one (*h*). I suspect Kerckringius examined the temporal bone only from the outer side, and after it was dry, when the cartilage became converted into a blackened mass, and he could not see what was inside; because if you examine it when the cartilage is quite soft it is very easy to see that this pyriform ossification is continuous with the ossification which covers the anterior vertical semicircular canal. That, therefore, is evidently the outer extremity of the ossification seen by Meckel upon the anterior vertical semicircular canal. This little ossification (Fig. 21, *h*), on the other hand, is continuous with the under-mass (Fig. 21, between *i* and *g*); which passes forwards and extends round the fenestra rotunda: that was also hidden from Kerckringius by the opacity of dry cartilage, I presume. It is not, in fact, a separate centre of ossification, but is an extension outwards of that ossification which Meckel and

others with justice have described in the immediate vicinity of the fenestra rotunda; and this ossification (Fig. 21, *g*) is that which everybody has seen—that which becomes eventually the mastoid, formed upon the posterior vertical semicircular canal. So that the old observer two hundred years ago was really quite accurate and precise, only his successors have not properly understood what he was about. Now this fact—that of the development of the petrosal bone, or of the petro-mastoid, out of three distinct centres—is a fundamental fact for our further study: it clears up a number of difficulties; it shows that a great many people have made a great number of mistakes, among whom I take my place. I will point out by-and-by what the applications of it are. At present I will merely state what becomes of these three elements, as shown in these diagrams (Figs. 21—25). This is one (Fig. 21, *f*, and Fig. 23, *c*) which is the outer extremity of the anterior ossification; it becomes enlarged, and united, as Kerckringius has described, with this one (Fig. 21, *g*, and Fig. 25, *e*) which is the oval shield; and the two become anchylosed together with this (Fig. 25, *d*). It is these becoming anchylosed together which form all this (Fig. 22, *f*) portion of the temporal bone which we call the mastoid portion. And you can identify the exact region in the so-called mastoid portion of the temporal bone of the human skull which corresponds with this by a curious circumstance. There is upon the outer surface of the temporal bone a little fossa which anatomists are all familiar with, and which I recollect many years ago Prof. Goodsir pointing out to me as being constant—a little fossa placed just above the auditory foramen, between the descending root of the zygomatic process and its middle root. It is present in all skulls, but of its precise meaning until a day or two ago I had no clear conception. It becomes obvious by a study of the fœtal parts. You will perceive quite in the early state that the squamosal portion sends a process backwards and downwards behind the auditory canal (Figs. 21 and 22, *a*): that process elongates in a fœtus about the sixth month, and it is very long; it fits in between *f* and *h* (Fig. 21) and the tympanic ring. In the more advanced fœtus and in the adult skull you find it between the tympanic ring and this part (Fig. 22, *g*, *e*, *f*): here is the arrest of the squamosal; so that you are quite certain that only this portion (Fig. 22, *e*) in the so-called mastoid corresponds to the outer parts of *f* (Fig. 21); that this (Fig. 22, *f*) corresponds to Kerckringius's scutum ovale, and to his third little pin's-head ossification. So that what we call the mastoid portion of the temporal bone is a complex structure consisting of three distinct elements, all of which appear upon the outside of the skull.

FIG. 25.

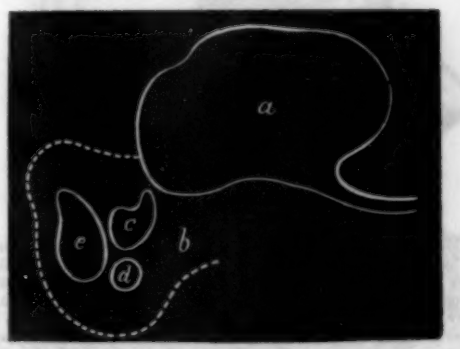


Diagram showing position of periotic elements. *a*, Squamosal. *b*, Periotic capsule. *c*, Prootic. *d*, Opisthotic. *e*, Epiotic.

Hitherto I have troubled you with as few terms and names as possible; and in these days of terminology it is great reticence, and I must take some little praise for getting through a description of the skull without using any word whatever which has not been necessary. I must now ask you to tolerate me if I invent three words to express the nature of these three ossifications. I might take the words already in use; but these words, at least for two of the parts, have been applied in so many different senses by other persons (and I am sorry to say by myself as well), that it would create still greater confusion to adopt them. I will, therefore, speak of this first ossification as the *epiotic* (Fig. 21, *g*), that which lies above the ear; of this (Fig. 21, *f*), which contains the anterior vertical semicircular canal, as the *prootic* ossification; and of this little pin's-head one (Fig. 21, *h*), which is continuous with the ossification which primitively surrounds the fenestra rotunda, as the *opisthotic*, in front and above and behind. You may say, Why call this behind the ear? Why not below? Merely because this position below the ear in the human skull is an anomalous position, one in which we shall not find the same parts to be in other vertebrata. This is one of the reasons why so much confusion has reigned upon this matter. Anatomists have not taken into consideration that extraordinary movement of the position of the temporal bone and the petrous part which takes place in man. To speak of this, therefore, as below, would be to use a misnomer. Let us, therefore, speak of these three as the prootic, the epiotic, and the opisthotic ossifications. What they correspond to in the lower vertebrata will come out clearly when we study these by the help of the relations of their parts with the primitive portions of the skull. The part which I have called the prootic is known to most anatomists as the petrous; that which is called the epiotic is known as the mastoid; the third one has as yet received no name at all, having been generally entirely overlooked, although we shall find that the understanding of this in the human skull gives a clue to the skulls of the lower vertebrata such as we have not yet possessed.

ON A CASE OF DISEASE OF THE SHOULDER.

BY BENJAMIN DANIEL, ESQ., M.R.C.S.

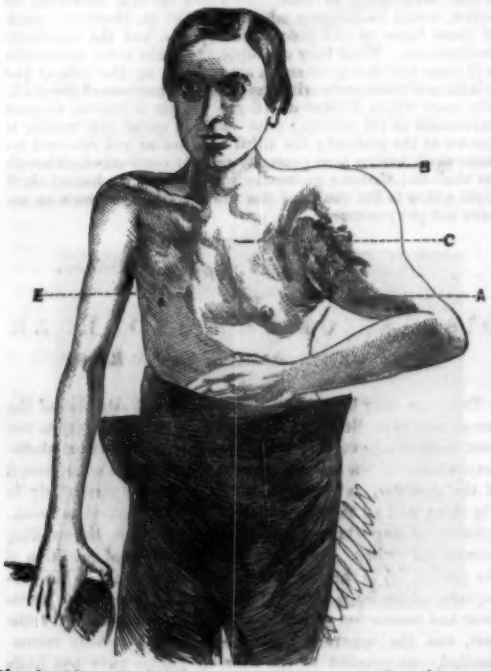
THIS case may be worth recording as an illustration of the remarkable turn disease sometimes takes, quite contrary to our most positive prognosis. The illustrations are drawn from photographs taken of the case. For weeks the enormous enlargement of the shoulder, as represented in the plates (particularly in Fig. 3, *a*), had all the appearance of an abscess about to break, notwithstanding which the fluid contained within the swelling became reabsorbed. For a long time the enfeebled condition of the patient led to the fear that a fatal result would be the consequence of the large extent of disease in the bone. The hectic fever and emaciation which at one time accompanied the disease, and the apparent hopelessness of the remedy recommended,—amputation at the shoulder-joint,—gave but little hope of a cure. The case has for some years been under the careful treatment of Dr. Guest, F.R.C.S. Eng., of Chelsea, to whose kindness I have been indebted for permission to take the following notes:—

April 7th, 1858.—Edward K——, residing in Chelsea, aged sixteen, is of a healthy family. Parents are living at this time. Father fair, and of a sanguine temperament. Mother has since died of hepatic disease. An elder brother, actively engaged in the business, healthy and strong. One child is stated to have died, aged eight months, from an attack of bronchitis. No symptoms of scrofula are traceable in the history of the family. The following explanation is given as the probable mechanical origin of the disease:—Four years ago—namely in 1854, when the patient would be twelve years old, he had a fall on the ice about Christmas time, and bruised his left shoulder. No inconvenience beyond an ecchymosis on the skin followed. Unfortunately a few months later he fell again, the weight of the body falling on the left hand. From this period the gradual enlargement of the shoulder is said to have commenced. The means used to check the progress of the disease being ineffectual, the patient became an in-patient at St. Mary's Hospital, where he remained for a space of four months, and where he had also a slight inflammation of the cervical glands, which was cauterized. Whilst in the hospital Mr. Coulson punctured the tumour at the point *a* (Fig. 3), and dark venous blood oozed out. Mr. Coulson was inclined to the opinion that the disease was fungus hæmatodes, and recommended amputation of the shoulder, to which the patient would not consent.

He came out of St. Mary's Hospital in June, 1856, without any improvement. In the following July Sir Benjamin Brodie was consulted, and he gave an opinion against amputation, and recommended waiting. Several medical practitioners at times

have seen the case, and some difference of opinion has been expressed by them as to the nature of the disease being either malignant or scrofulous. By this time the tumour has assumed more the appearance of a scrofulous white swelling, in which a secretion of fluid has taken place. The absence of acute pain, and the indolent character of the swelling, the freedom from anxiety in the countenance of the patient, and his increasing growth, with a general condition of improvement, preclude the supposition of the disease being of a malignant character. Nevertheless, the size of the tumour is stationary, and of great bulk. This was a measurement taken in July, 1857: Circumference of the tumour taken from under the axilla (Fig. 1, A) around

FIG. 1.



the shoulder at B, 24¼ inches. At this present time the same measurement of the tumour gives 22¾ inches, being a reduction of 1¼ inch in circumference. The corresponding measurement of the healthy shoulder is 10 inches. From the sternum around the tumour to the spinal column (Fig. 1, C, to D, Fig. 2), 27 inches. The same measurement of the healthy side, 15 inches. From the cervical vertebra prominens to the olecranon passing over the tumour, 20½ inches; and the same measurement on the right side, 19½ inches. The right side of the thorax shows a somewhat angular projection of the ribs (Fig. 1, E). The spinal column also has a curve towards the diseased side (Fig. 2, D). The skin covering the tumour is much the same in colour as the rest of the body. Its surface displays the veins in front full and of a reddish hue, enlarged, and frequently inosculating, enclosing spaces of intervening distended skin of a shining white or pinkish colour. The pain is not great; but what there is, is dull and aching. Pressure from the elbow towards the glenoid cavity does not increase the pain. The head of the humerus is for the most part hard and not painful on pressure, except in front at *a* (Fig. 3), where it is soft, tense, thin, and elastic, and rather tender; but even here the skin is not inflamed, but still has the appearance of being likely to break at this point. A copious perspiration takes place on and about the diseased shoulder, which thoroughly wets the pillow on which it lies. The general health of the patient continues favourable; pulse 108, and fairly strong; no symptoms of any pulmonary complication. He has grown taller and stronger during the last year, and is capable of taking a considerable amount of out-door exercise.

May 1st, 1858.—The projecting point (Fig 4, *a*) is getting very thin, and round about it, for the space of two inches, the skin has a bluish tint, is tender on pressure, and is tense, soft, and elastic.

FIG. 2.

March 9th, 1859, is the date of the next report. The patient is looking well, and has grown three inches taller during the last twelve months, his height being 5 ft. 4 in. His weight, August 6th, 1858, was 8 st. 10 lb.; Sept. 16th, 8 st. 13 lb.; Nov. 16th, 9 st. 13 lb. He is in good spirits, and enjoys a liberal diet. The shoulder-joint can be handled and moved about without pain. The threatened breaking of the abscess has not taken place. The congestion and dark colour about the point (*a*, Fig. 4) have subsided, and its soft elastic feel is replaced by a solid, unyielding, bony surface, which

FIG. 3.

still represents the pointed form indicated in the engraving. The large meandering veins on the surface have shrunk, and have now a pale, corrugated, shriveled look. There yet remains a place about two inches above the point already indicated where the bony case is not completed. There is no appearance of heat or inflammation about the joint. He is able to dress himself and use his arm for that and other little services. The free use of his elbow-joint is not impeded.

FIG. 4.

Jan. 20th, 1863.—This case has now been under observation five years, during which time the patient has grown from youth into manhood. He is now twenty-one; stands 5 ft. 8 in.; and weighs 12 st. 3 lb. His frame is muscular and altogether strongly built, and he is looking particularly well. He is able to take an active part in the management of his father's business, and is able to use his shoulder without pain so far as its restricted mobility will permit. It is about two inches less in circumference; the final measurements being as follows:—From under the axilla around the tumour, 21 inches; the same measurement of the healthy shoulder, 16 inches (thus giving a permanent enlargement of five inches in the circumference). From the median line of the sternum, around the shoulder, to the spinal column, 24½ inches on the diseased side; 22 inches on the healthy side. The swelling now is bony throughout, and consists of an enlargement of the head of the humerus. The curvature of the spine and projection of the ribs are not now observable. He can raise his arm to a right angle with the body, and can move it forwards or backwards; but cannot get the elbow within five or six inches of the side. On placing the hand over the scapula and acromial end of the clavicle, and working the arm up and down, a great crackling of articular bony surfaces is felt, and which the patient says he can feel, but it is not painful.

At this time it is impossible to surmise what may have been the exact nature of the injury sustained by the fall in 1854. The enormous enlargement of the head of the humerus at present would correspond to a dislocation either into the axilla or on to the costa of the scapula. The centre of motion of the shoulder is now on the costa of the scapula. Whether the original cause was mechanical or not, there can be little doubt but the disease has been of a strumous character in its development and progress, and a constitutional improvement the cause of its cure. The head of the bone has now a uniform, smooth, bony surface, and corresponds well with this description by Samuel Cooper:—"Whenever a bone suppurates, there is more or less absorption of it, and sometimes while the interior texture is removed by the absorbents, so as to leave a considerable cavity, the external shell is expanded, constituting the case technically named *spina ventosa*." The same eminent surgeon, writing on the treatment of scrofulous disease of the joints, beginning in the bones, says—"It is always a rule in the treatment of this disease to open abscesses early." In this instance what seemed to be an abscess was not opened, although it presented a most inviting appearance for such an operation. That this abscess did not break, may be attributed perhaps to the resistance of the expanded periosteum, remaining unaffected by the disease. Eventually, as the fluid contents of the tumour became gradually absorbed, a coincident deposition of healthy bony matter was taking place from the inner surface of the distended periosteum, so that now the bony form of the tumour represents an exact model of the tumour at the time when it was soft and daily threatening to break (*a*, Fig. 3).

In conclusion, the patient and his medical advisers have every reason to congratulate themselves on the happy termination of this at one time seemingly hopeless case. The patient possesses a limb which, although unsymmetrical, is very useful, inasmuch as it will enable him to follow any occupation of a not too laborious character. The permanent bony enlargement is now altogether free from pain either on being handled or moved. The treatment consisted of local counter-irritation in its earlier stage, and of the subsequent inunction of iodine; but the main indication throughout has been to promote an improvement in the general health of the patient. To this end, much out-door exercise, riding in a gig into the country, and excursions up and down the river, a liberal allowance of wine, porter, and animal food, together with the most devoted attention of the patient's friends to his welfare, have largely contributed.

King's-road, Chelsea, 1863.

A CLINICAL NOTE ON THE EXTRACTION OF CATARACT.

BY ERNEST HART, ESQ.,
OPHTHALMIC SURGEON AT ST. MARY'S HOSPITAL, PADDINGTON.

IN a former paper I have expressed the decided preference which I entertain for extraction as a surgical method of restoring sight to cataractous patients, over other methods, whether by drilling, discission, or depression of the lens. The number of cases to which the latter proceedings are advantageously applicable is, I think, very restricted indeed; and I believe the circle of their application may be usefully limited to a very small proportion of the cases in which operation is desirable.

But in order that extraction may be properly appreciated, and attain the full measure of success of which it is capable, it should not be undertaken without very careful preliminary examination of cases; and when performed, there are certain means, in addition to mere manipulative details, by which its success may be greatly aided.

Means of diagnosis: inutility of the candle test.—In the preliminary examination of cataractous patients there are certain means of investigation which in practice are of very great value; others which have been much vaunted, and still find place in many classical treatises, may now be ordinarily discarded as uncertain and of comparatively little use. Among the latter is the exploration of the eye by passing in front of it the flame of a candle, of which in the healthy eye, with the pupil dilated, three images should be presented. These are commonly called the images of Sanson, although Purkinje had the priority in pointing them out. But anyone may convince himself by a little clinical study that this method is not reliable as a means of diagnosis; for the three images may also be seen in an eye which presents a very observable cataract. In very recent times the differential diagnosis of "amaurosis" and cataract has been much discussed; but it would now be impossible for any surgeon who duly avails himself of the existing means of lighting up the interior of the eyeball, to fall into the error of confounding the two conditions. Subjective symptoms, moreover, have not the value which they possessed when our means of examination were less searching; and long-written histories are now little to the point in these cases.

There are three positive means to which I think every practical man may usefully resort in ascertaining the condition of the lens and diagnosing accurately the degree of visual power which its opacity may veil. We may test the transparency or dioptric condition of the lens by the ophthalmoscope, and perhaps then examine the retina, choroid, optic nerve, and vessels at the fundus, in one or the other eye; we may test its reflecting qualities or catoptric condition by causing a concentrated pencil of light to play obliquely on the lens; and where total opacity veils the fundus, we may explore the retina by momentarily making pressure in a given and systematic manner on the ball of the eye, thus testing the possibility of producing the luminous circular images which are excited by this manœuvre where the retina is healthy, and which M. Serres has carefully described as phosphenes or luminous rings of the retina.

To take the simplest of these methods first—that of oblique illumination. It is of course roughly practised by placing the

patient near a window having a good light (not a glare of sunbeams), and inspecting the eye carefully sideways, obliquely, and in different positions. But this is quite insufficient, and in this way chromatic changes of the lens have been mistaken for cataract, while incipient cataracts have been overlooked and patients treated for "amaurosis." To employ usefully this mode of exploration, the chamber should be darkened and the face of the patient shaded, while a lamp is placed at his side; the surgeon then, taking the mirror of the ophthalmoscope in his hand, directs a pencil of rays on to the eye; but instead of looking through the central aperture of the mirror, by which he would receive the axial rays of emergence and get an image of the fundus, he looks on all sides of it, and receives the rays obliquely reflected. In this way, or by holding a candle laterally and in front of the eye in the darkened room, and interposing a large lens, he can by successive movements focus the concentrated rays of light upon any part of the surface or depth of the crystalline and its membranes, and can so accurately light it up as to be able to discern the slightest deposit, whether plastic or pigmentary, and to note the earliest traces of central or circumferential opacity. A little practice is necessary in carrying out easily and effectually this method of examining the lens; but when acquired it has peculiar advantages, and is infallible in recognising cataract.

I will not dwell upon the examination of the supposed cataractous eye by the ophthalmoscope further than to say that the examination of both eyes can never be omitted, because this method of examination is capable of affording a great amount of information where the opacity is commencing, partial, or incomplete, by revealing the state of the fundus and disclosing such conditions of the retina and choroid (effusion of serum, hæmorrhage, optic atrophy, or the like) as may render it imperative to offer a very guarded prognosis, or to dissuade altogether from operation, lest the patient be pained and the operation discredited by failure arising out of conditions which could not be removed by the mere extraction of the lens. In such cases the passage of light *through* the lens often interferes with a clear diagnosis of the nature, site, and full extent of its opacity; and these will always be supplied by the method of oblique illumination to which I have referred. In both, the pupil should be dilated with atropine.

Finally, where the lens is already thoroughly dense when the patient is seen, a most useful resource will be found in the careful examination of the retinal phosphenes by pressure. It is a well-known subjective virtue of the retina that the presence of a solid body in the eye produces a luminous spectrum more or less distinct. This has been carefully studied by Brewster and Serres (d'Uzès). Not to dwell at present upon the interesting theory of the phosphenes, I will only state the practical conclusion of M. Serres, who lays stress upon four phosphenes: the *frontal*, produced by rhythmical pressure over the upper and middle part of the ball, beneath the eyebrows; the *jugal*, by similar pressure at the corresponding point below; the *temporal*, over the insertion of the external rectus into the ball; and the *nasal*, over that of the internal rectus. The pressure is made on the eyelid with the tip of the finger, or a rounded ball on a stem; the end of a caustic-holder serves very well. The luminous appearance partakes of the shape of the compressing body (usually circular or crescentic), and is that of a brilliant white flame. When all the phosphenes are produced, the augury as to the healthy condition of the retina is very favourable; and in proportion as they are feeble, or partially present, or altogether absent, is the judgment unfavourable. Of course some little tact and practice is necessary in carrying out the test, but it is one of great value in certain cases only seen in their late stage, and serves to give valuable information, tending to define the utility of extraction in given instances. I recommend it to attention as a useful resource of practice. Some months since, finding the phosphenes perfect, I was able to hold out favourable prospects to a patient brought to me from the country, who was paralysed, and stone blind with cataract in both eyes. Extraction was successful, and he has now very good sight.

When all complications have been carefully examined by these physical means, which may be satisfactorily applied in far shorter time than is occupied by their description, it remains to fix the season for operation, to enter into the medical history and subjective symptoms of the patient, and to determine the method of after-treatment. As to season, I think it may be considered as generally agreed that the spring months in this climate are the most favourable time, although with proper precautions cataracts may be extracted with success nearly all the year round; and of this there are abundant proofs, so that some are disposed to think that the selection of spring is due rather to popular fancy. Unless the weather be oppressively hot, or peculiarly sharp and severe, either of which extremes is injurious, I believe that the preference for particular months is not based upon any trustworthy series of chemical facts or accurate theory.

Desiring to limit the present remarks within narrow bounds of brevity, I will beg to reserve the discussion of some points of treatment, &c., for a future occasion.

Wimpole-street, March, 1863.

A Mirror
OF THE PRACTICE OF
MEDICINE AND SURGERY
IN THE
HOSPITALS OF LONDON.

Nulla est alia pro certo noscendi via, nisi quam plurimas et morborum et dissectionum historias, tam aliorum proprias, collectas habere et inter se comparare.—MORGAGNI. *De Sed. et Caus. Morb.*, lib. 14. Proœmium.

MIDDLESEX HOSPITAL.

PERFORATING ULCER OF THE STOMACH; DEATH IN SIXTEEN HOURS.

(Under the care of Dr. GOODFELLOW.)

WHILST cases of gastric ulcer are comparatively frequent in hospital practice, and occasionally watched to their termination without perforation, the perforating ulcer is not so often presented to notice. Dr. Brinton has collected, in his excellent work on "Ulcer of the Stomach," from his own experience and that of others, a total of 257 cases of open ulcer, of which 69 had perforated the organ. In round numbers this is the proportion of one in four. And as he not unreasonably assumes that these 257 open ulcers represent about an equal number of scars, he concludes that one in every seven or eight cases of gastric ulcer terminates by perforating the wall of the stomach—a proportion which is equivalent to about 13·4 per cent. It is a fact worth remembrance, that the ratio of perforation in the sexes is about two females to one male, and that the excess of such cases in the female falls on the sixteen years of life which intervene between the ages of fourteen and thirty; while nearly two-thirds of that excess belongs to the six years between fourteen and twenty. Such a remarkable increase of liability to perforation at this particular period of female life is an important fact which, Dr. Brinton states, Dr. Crisp has the merit of first establishing, as the result of some interesting cases that had fallen under his own observation, and of a large number which he had collected, and which appeared in THE LANCET for 1843.

Perforation generally occurs almost immediately after a meal, or when the stomach is distended. The following cases form no exception to this rule, and a fatal result ensued in sixteen hours in both.

The subjoined notes were taken by Mr. D. Devereux, resident medical officer to the hospital:—

Mary W——, aged twenty-eight, single, a servant, was admitted Jan. 15th. She stated that she had been much overworked for some time. She was of a sallow complexion, and somewhat emaciated. Had suffered for a considerable period with symptoms of dyspepsia, which had become aggravated during the last month, with pains in the epigastrium after taking food; but there had been no vomiting or hæmatemesis. The catamenia had not appeared for three months. At two P.M. on the day of admission, an hour after her dinner, she was seized suddenly with violent pain in the epigastrium, which no position relieved. On admission at four P.M. the expression of her countenance was pinched; surface of body cold; her knees were drawn up. She complained of violent pain, extending over the whole abdomen, and the tenderness was so severe that she could not bear any examination. Pulse 75, small and weak; tongue clean and red; bowels acted the day before her admis

sion. She was ordered opiates, with linseed-meal and laudanum poultices to the abdomen.

Jan. 16th.—One A.M. (nine hours after admission): The pain was slightly relieved, but the surface of the body was cold, and covered with a clammy perspiration; the pulse was quick and scarcely perceptible. At six A.M. she died.

Autopsy, eight hours after death.—Pleura slightly adherent; lungs and heart healthy; kidneys small and slightly granular. The peritoneum contained fifty ounces of turbid serum, seemingly mixed with water and other fluids from the stomach. There was a copious deposit of recent lymph over the intestines. The stomach presented an ulcer on its anterior wall, at about an inch and a half below the lesser curvature, and near the cardiac extremity. The ulcer on the peritoneal surface was oval in shape, of the size of a fourpenny-piece; on the mucous surface it was larger; the membrane was congested at its superior edge, and its lips were thickened. When seen from the internal surface the ulcer presented a funnel-shaped appearance.

PERFORATING ULCER OF STOMACH; DEATH IN SIXTEEN HOURS.

(Under the care of Dr. H. THOMPSON.)

The following notes were furnished by Mr. M. H. Welby, senior clinical assistant:—

John B——, aged twenty-six, shipwright, admitted March 7th, 1863. For two years he suffered from pains in the epigastrium and between the shoulders, increased after meals. During the last month these pains became more severe. At eleven A.M. on the day of admission he partook of a wineglass of rum and a glass of ale. In a quarter of an hour afterwards he was seized, while standing in the street, with acute pain in the epigastrium, extending to the shoulders. Ten minutes afterwards he was brought to the hospital. He complained of most acute pain over the whole abdomen, especially in the epigastrium. The face was pale, expression anxious; skin over the whole body cold; tongue moist and clean; pulse 100, very small and compressible. Ordered a suppository of morphia, and hot fomentations with laudanum to the abdomen.—At midnight the pulse was so indistinct that it could not be counted; the surface of body cold. Was quite sensible, and said he was much relieved.—At half-past three A.M. he died.

Autopsy, twelve hours after death.—Rigidity universal. Omentum and intestines much injected, and covered with large patches of yellow lymph. On the anterior surface of stomach, and three-quarters of an inch from the lesser curvature, and an inch and a half from the œsophagus, was a small round orifice, the size of a threepenny-piece, with thin, sharp edges. The tissues around the orifice were much thickened. Small patches of injection in the mucous membrane of the stomach, over which the tissue seemed abraded. The stomach contained some thick yellow fluid. Other organs normal.

GUY'S HOSPITAL.

FATAL CASE OF GLANDERS, WITH POST-MORTEM APPEARANCES.

(Under the care of Dr. GULL.)

E. J——, aged forty-eight, was admitted into the clinical ward on the 3rd of March. He had been employed all his life in a knacker's yard breaking up bullocks' bones; horses' bones he had nothing to do with. He also attended to horses. He was always in good health, and pretty steady. His present attack commenced three weeks ago with pain in the right side; he took to his bed, and kept it ever after; the pain got worse, and at night he sweated a good deal.

He looked very ill on admission, and was evidently the subject of blood-poisoning. The skin had a yellowish tinge. On the upper lip was an unhealthy-looking sore about the size of a sixpence, the result of a blow from a piece of bullock's bone; the surface of the sore was nodular and pustular. On the arms were some nodular swellings, red on the surface. On examining the chest, a distinct pericardial frottement was heard; râles over the chest, and dulness on percussion at the base of the right lung, where also a pleuritic rub could be heard; skin hot; tongue dry and furred; pulse 92.

March 4th.—Pericardial rub not so loud; great thirst; pulse 108; profuse perspiration, but no smell of rheumatism.

5th.—Much the same; no pain. Another swelling has appeared on the right forearm, and also a pustule on the shoulder, accompanied with redness. Right eye puffy.

6th.—Looks very ill, but does not complain. More pustules have appeared on the body; they have at first the appearance of a red pimple, and progress somewhat like variola. Skin hot, but moist. Ordered plenty of nourishment, with quinine and brandy.

7th.—On this and the following day he became gradually lower, fresh pustules appearing on the face and body; eye swollen and discharging; tongue dry.

9th.—Several pustules collected together on the chest, of various forms and sizes, and in some places running into each other; no discharge from the nose; a number of nodules on the arm. He died.

Autopsy, twenty hours after death.—Only a partial examination was made. When the skin was reflected on the body, some diffused suppuration was found in the subcutaneous tissue, corresponding to the external swellings. Both lungs were adherent by old cellular tissue. Small masses of lobular pneumonia on the surface of the lungs; but no well-marked pyæmic abscesses. The surfaces of the pericardium were covered with lymph. Only a superficial examination was made of the heart; but a few incisions into it did not show any points of suppuration.

PURPURA ARISING FROM SMALL-POX OR OTHER FEVER; QUICKLY FATAL.

This case was involved in obscurity. The boy evidently died of purpura; but whether this was only one symptom of fever was not very evident. Scarlatina was prevalent in the neighbourhood of his residence, as well as small-pox. Mr. Stocker, the resident apothecary, who saw him alive, rather inclined to its being the latter. There was no proof that the blow he received was a severe one, or that it could have given rise to the purpuric condition. Curiously enough, a few days afterwards a man who lay in the next bed in the ward was seized with small-pox.

Wm. F——, aged fourteen, was admitted into Job ward on the 24th of Dec., 1862. He came to the admission-room complaining of pain in his back, and saying that he had received a blow there. The boy was consequently taken into a surgical ward. He appeared very ill, and soon an eruption was observed, somewhat like that of scarlatina; but there was no marked sore-throat. Towards evening the rash became purpuric in character, in the night he vomited some blood and passed some by the bowels, and on the following morning he died.

Autopsy, thirty-two hours after death.—The body was that of a boy who had died of acute disease. On the chest and upper part of the body a purpuric or petechial rash was present. The spots were very small, as if corresponding to some rash. The brain was healthy, with the exception of some purpuric spots in parts of the medullary substance. Spots of ecchymosis were present on the surface of the lungs, and a few on the pericardium. They were also observed in various parts of the peritoneum. The stomach was highly congested, or rather of a purple colour, partly from congestion, and in part from straining. The stomach still contained some fluid blood; the small intestine was healthy, large, of a dark colour like the stomach, and contained blood; the bladder contained a little urine, which was not albuminous.

METROPOLITAN FREE HOSPITAL.

POLYCYSTIC OVARIAN TUMOUR IN A WOMAN AGED SIXTY-FIVE; OVARIOTOMY; RECOVERY.

(Under the care of Mr. HUTCHINSON.)

THE notes of the following case were furnished by Mr. Warner, house-surgeon:—

S. B——, a monthly nurse, aged sixty-five, but looking ten years younger, had been sent by Dr. Sutton (under whose observation she had been at times for three years) to Mr. Hutchinson in order to the performance of ovariotomy. Dr. Sutton first discovered the tumour three years before. It was then very small, and at first it increased slowly, and caused no inconvenience; latterly it had grown much more rapidly. The woman's health had also much failed. She was a widow, and had borne five children. The abdomen measured forty-five inches in circumference, and was everywhere dull excepting in the right loin. The integuments, especially of the hypogastrium, were œdematous, and the prominence of the tumour was greatest in the hypogastric region. Fluctuation could be elicited, but it was indistinct, and as if transmitted through

very thick structures. The uterus was ascertained by vaginal examination to be high up, and quite normal.

On December 9th, ovariotomy was performed. An incision, just large enough to admit the hand, was made through the integuments down to the cyst. The hand being introduced, some slender adhesions over the whole front of the tumour were broken down very easily. The chief cyst was then punctured by a large trocar. When the cyst was nearly empty, it was drawn out at the wound, its withdrawal being very greatly facilitated by turning the woman over on her right side. It was necessary during the withdrawal to puncture two or three of the smaller cysts. The pedicle was long and thick. It was secured in a clamp, and the tumour was then cut away about three inches above it. The intestines had not been seen, Mr. Chance, who was assisting, having carefully kept the edges of the wound closed during the concluding steps of the operation. The wound was closed by hare-lip pins, a flannel bandage applied, two grains of opium introduced as a suppository, and the patient returned to bed. The operation had occupied but a very short time, and the woman had borne it remarkably well.

On the 12th the clamp was removed, and on the 13th the pins were taken out. The wound had now entirely healed, but the stump of the pedicle was of considerable size, and occupied its lower end. Excepting a little trouble from vesical irritation at the end of ten days, and for which quinine and opium were prescribed, she had not the slightest ailment during her convalescence, and left the hospital in excellent health on the 8th of January, thirty days after the operation.

In commenting on the above case, Mr. Hutchinson adverted to the great assistance derived in ovariotomy from turning the patient over to one side. It was convenient to perform the first steps of the operation with the woman on her back, but as soon as the tumour was partially emptied the side posture had great advantages. The patient should be turned to the side opposite to that from which the tumour grew, as the intestines would thus be less likely to protrude. The advantages obtained are two—first in the greatly increased facility of dragging out the cyst, and secondly the much diminished risk of any cyst-fluid finding its way into the peritoneal sac. With the patient on her back, and the cyst nearly empty, there is often still considerable difficulty in getting the tumour out, owing to the circumstance that the remaining fluid by its gravitation drags the cyst back again at one part as fast as the operator extracts it at another. All this is remedied by the side position, and the operation may be completed much more quickly, and with a smaller incision. The importance of preventing cyst-fluid or blood from gaining access to the peritoneal sac is obvious, and can scarcely be overrated. It is clear that there would be much less likelihood of any doing so with the patient on her side. Mr. Hutchinson added, that he had several times tried the side position, and found it more than realize the advantages expected. It had also been tried, at his suggestion, in a case in which he was not the operator, and with a result which was all that could be wished for. In cases of polycystic tumours, in which it was needful to cut into many cysts in succession, the side position was especially desirable, and in some such it might even save time to turn the patient well over, and then cut freely into the tumour, without any attempt at emptying it by means of the trocar. It was of course important to arrange for a good light from below in adopting this position.

Medical Societies.

OBSTETRICAL SOCIETY OF LONDON.

WEDNESDAY, FEB. 4TH, 1863.

DR. OLDHAM, PRESIDENT, IN THE CHAIR.

THE following gentlemen were elected Fellows of the Society:—W. Bannister, Esq.; A. P. Owen, Esq.; and Dr. G. Simpson.

After a short address from the President upon his assumption of office,

Dr. TYLER SMITH read a communication from W. W. Wiseman, Esq., and exhibited a part of the Funis of a Still-born Child in which a Double Knot was found. The knot was apparently the cause of death. It was the second child in a twin case, the first being born alive.

ON VESICO-VAGINAL FISTULA, THE MODE OF OPERATING, AND THE RESULTS OBTAINED IN FIFTY-FIVE CASES AT THE LONDON SURGICAL HOME.

BY I. BAKER BROWN, F.R.C.S.,

SENIOR SURGEON TO THE LONDON SURGICAL HOME.

In the first part of the paper the author gave an account of the method at present followed by him in operating. The various steps of the same were illustrated by drawings. No bars or clamps are used. The knives employed are two—one for the right hand, and one for the left. The needles, of various curves, forming a series fourteen in number, are on the same principle as Startin's, but of rigid material. They are armed with wire, and thrust through the pared edges, great care being taken to avoid the mucous coat of the bladder. The two ends of the wire are simply twisted round and round, and so fastened. The patient is afterwards laid on the side, and a male elastic catheter, with bag attached, kept in the bladder. She is kept quiet ten or fourteen days, and the wires removed. The operation is often completed in ten minutes.

The total number of cases of vesico-vaginal fistula admitted into the London Surgical Home since its foundation four years and a half ago is 58. Of that number, 55 were submitted to operation, with the results as shown in an accompanying table. The remaining 3 were not operated upon in consequence of the bad condition of bodily health, the result of syphilis. Of the 55 cases treated, 53 were operated upon by the author, 1 by Mr. Nunn, and 1 by Mr. Harper. Of the total number of operations, 43 were followed by perfect cure, 1 was much relieved, 2 died, 5 were not cured, and 4 are still under treatment, with every prospect of cure. Of the 43 cures, in 24 this result followed the first operation, including the cases of Mr. Nunn and Mr. Harper; in 8 the cure occurred after the second operation; in 5 after three operations; and in 6 after more than three operations. Of the other cases which were not cures details were given in tables exhibited. Of the 2 fatal cases, 1 died eighteen days after the operation, apparently from exhaustion, the age of the patient being fifty-six; the other died seven days after from pyæmia.

With regard to the causes of vesico-vaginal fistula. Of the 58 cases admitted into the London Surgical Home, 47 were over twenty-four hours in labour, and 39 were as much as thirty-six hours or more; 7 were two days, 16 were three days, 3 were four days, 2 were five days, 2 six days, and 1 seven days.

In the whole number of cases, instruments were used in 29, exactly one-half; and in 4 only of these was the labour less than twenty-four hours, and with 7 exceptions the patients had been thirty-six hours or more in labour before instruments were used.

Of the 58 cases, in 24 only the injury happened at the first labour, in 7 at the second, in 5 at the third, in 4 at the fourth, in 6 at the fifth, in 2 at the sixth, in 5 at the eighth, in 1 at the ninth, in 1 at the thirteenth, in 1 at the fifteenth, and 2 not mentioned. In many of these cases, notwithstanding the existence of the fistula, the patient bore several children, apparently without inconvenience, before coming under treatment; and in a few of them, subsequent to cure by operation, other children have been born without recurrence of mischief. In a large proportion of the cases there is a history of the birth of a very large child; in some it weighed 15 lbs.; and in one, that of the woman in whom the lesion happened at the fifteenth labour, the child weighed 17 lbs.

From the foregoing statistics it is evident that the cause of the lesion is protracted labour, and not the use of instruments or deformity of the pelvis; and, as a necessary conclusion to what has been stated, it follows that vesico-vaginal fistula would scarcely or never occur if a labour were not allowed to become protracted: this is a point for the careful consideration of the Society and of practitioners at large.

A printed tabulated statement as to the 55 cases operated on was handed round. Mr. Brown further stated that he had had 11 other cases under his care in St. Mary's Hospital, and 6 in private practice, making a total in his own experience of 58 cured; 34 by one operation, 11 by two operations, 5 by three, and 8 by more.

Mr. BRYANT remarked that the essential steps of the operation might be divided into two. First, to make a clean and even dissection of the margin of the fistula; and secondly, to bring the edges together, and to keep them there. Both points were of equal importance; for if either was imperfectly executed, failure would necessarily follow. He differed from the author respecting the use of the forceps and scalpel in carrying out the first steps of the operation. He had been led to the

formation of his pronged guide, a description of which would be found in the "Transactions of the Medical Society of London." By this instrument a clean section of the margin of the fistula, however large it may be, is absolutely guaranteed. Every operation which he had undertaken since its introduction had been followed by immediate success. Respecting the second step of the operation, he generally preferred metallic sutures. He believed that it was unnecessary, as also injurious, to leave the sutures in after union had taken place. Failure had followed such a practice. Respecting the use of opium in the after-treatment, on which Mr. Brown had been silent, he was disposed to recommend that enough be given to keep the bowels at rest, but nothing more. He would inquire of Mr. Brown also how long the catheter was retained in the bladder after the operation? His experience had told him that a periodical introduction only was necessary.

Mr. NUNN believed that further observation would show, as it had shown in a case he referred to, that in some cases the retention of the catheter in the bladder was not always safe; that ulceration was liable to ensue. This was a point requiring careful consideration.

Dr. BRAXTON HICKS thought that, from what he had seen, more injury was done by long-continued pressure than by a more forcible one of short duration. It was impossible to lay down any rule as to the time the head could remain with impunity, for in a case of vesico-vaginal fistula he had seen the labour was of average duration, and never severe. Although he considered, in good hands, the forceps could be safely used, yet before we could assent to the inference drawn by Mr. Baker Brown we must be certain that no other injuries would be produced by the forceps worse than vesico-vaginal fistulæ, injuries which might possibly prove early fatal, and thus not give time for the development of fistulæ.

Dr. OLDHAM saw nothing in the communication made to the Society, valuable as it was, to induce him to vary a hair's breadth from the precautionary precepts for the employment of instruments in protracted labour which were recognised and advocated by the best British obstetric authors. He felt persuaded, from his experience of cases which had come before him, that the more frequent employment of instruments would result in the laceration of the structures at the floor of the pelvis, particularly the laceration through the sphincter of the rectum, an accident only second to that of vesico-vaginal fistula in its distressing results, and which involved a most painful and formidable operation.

Dr. TYLER SMITH observed that in laying down a rule of practice it was especially necessary to employ precise language. If Mr. Brown had employed the term labour with impaction, instead of protracted labour, he should have agreed with him. We might have protracted labour from many causes, some of them not necessarily injurious to the mother, but we could not have continued impaction of the head without the risk of injury to the soft parts of the mother, and impaction should therefore never be allowed to go on unrelieved. In performing the valuable operations which had been devised for these distressing conditions, he (Dr. Tyler Smith) thought it should be laid down as a principle, that in repairing one organ the integrity of the neighbouring organs should be respected. This applied, in the operations for vesico-vaginal fistula, to the rectum, ureters, and the os uteri. In some of the cases related the os uteri had been closed, and the menstrual fluid left to escape *viâ* the bladder, or the urine to pass per rectum. These evils were scarcely less than those they were intended to remedy. Fatal results had followed from closure of the os uteri. Very recently he had seen a remarkable case where the os uteri had been closed in a plastic operation, which seemed perfectly justifiable, for the relief of utero-vesical fistula. A perfect cure was the result as regards the urine for the time. Menstruation occurred through the bladder, but the patient in a few months became pregnant. The urethra was of moderate size, and there seemed no other explanation than that the spermatozoa must have passed from the vagina through the urethra and bladder to the uterus. The result of this and other cases satisfied him that it was not a safe practice to close the os uteri, or to invade other organs, but that the plastic operations should be limited as far as possible to the closure of the original fistulæ.

Dr. ROGERS agreed entirely in the remarks made by the President and Dr. Tyler Smith. With reference to the mode of operation recommended by Mr. Brown, he thought it was undoubtedly the best. He considered Mr. Brown and other gentlemen were entitled to great praise for their untiring labours in rendering these formerly hopeless cases amenable to treatment.

Mr. BAKER BROWN, in reply, said that he supposed the prong mentioned by Mr. Bryant to be similar to that invented by Mr. Hilliard, of Glasgow. He had tried it, and found his old plan easier and quicker. In America, Drs. Sims and Bozeman did nearly all the denuding of the edges with scissors. This made the operation very long. But if the knife was first used to mark around the fistula how much was to be taken off, and then, by means of a fine pair of forceps, the edges were made tense, Mr. Brown said that the whole fistula might be denuded, taking out a complete ring—a matter of great importance. In regard to the sutures, Mr. Brown stated that he greatly preferred wire, although Dr. Hayward, of Boston, U.S., used silk in preference. Mr. Brown had by this gentleman's advice used silk in one case with a good result. But they were more liable to slough, and the wires, from their stiffness, had the advantage of keeping the edges more in apposition, and so ensuring a greater depth of union. But the sutures to be used should, Mr. Brown thought, be silver, not iron, as recommended by Dr. Simpson, of Edinburgh. Mr. Brown expressed a very strong opinion in favour of keeping the sutures in long enough; never less than nine days. He believed no harm ever resulted from retaining them in longer; but in one case he had had, he removed them on the sixth day, at the patient's request. The fistula appeared quite healed. She got up next day, contrary to advice, and the whole burst open again. She was re-operated on; the sutures were left in a sufficient time, and a cure resulted. Mr. Brown had made experiments, and kept silver sutures in for six and nine months, and no trace of ulceration appeared. Mr. Brown considered that opium should be given only in sufficient quantities to keep the bowels quiet. One grain immediately after the operation, and repeated night and morning, according to the circumstances of the case. Many patients cannot bear the catheter, especially the leaden one, but Mr. Brown had seldom found the male elastic catheter to cause irritation. Perhaps in time we might gain sufficient confidence in the operation to allow the patient to pass her urine as required, but at present it was better to retain a catheter, or when that was not tolerated, to pass one when needful. He had purposely used the term protracted without reference to the cause of protraction, for it was very rarely that a medical statement could be obtained. It was necessary, therefore, to take only the statement of the patient as to the duration of labour. When the head was impacted, Mr. Brown would deliver as soon as possible by forceps. He quite agreed with Dr. Tyler Smith as to the necessity of maintaining the integrity of the other parts in these operations. Of the two cases on which he (Mr. Brown) had operated, and where the patients subsequently menstruated per urethram, in one, the patient having been under many operations in other hands for some years, the os had already been interfered with either by sloughing or by the operation, and only one small opening, as described, remained to be closed. There was, therefore, nothing left to do but to close the opening, regardless of the menstrual flow. The patient had done well. No inconvenience had arisen, and she was grateful for the benefit received. In the other, that lately brought before the Society by Mr. Chapman, the os uteri was already closed by cicatrization, after extensive sloughing, and therefore Mr. Brown had nothing to do with its occlusion. He considered that the two terms, vesico-vaginal and vesico-uterine fistula, were not used with sufficient caution. Although the os uteri might often be involved in vesico-vaginal fistula, the true vesico-uterine fistula was when the hole was high up in the cervix, urine dribbling through the os uteri, although no aperture from the bladder was visible. This was the kind of which Jobert had related seven cases, Dr. Fleetwood Churchill one, and which had lately been so well described by Mr. James Lane, who had had one case. In all these the treatment had been to close the os, so that the patient menstruated per urethram. He (Mr. Brown) had never had such a case, but he thought that the treatment adopted was decidedly the lesser evil, and if the patient, on having the case laid before her, was of the same opinion, he considered it perfectly justifiable. The case Mr. Nunn had mentioned showed that by leaving a vesico-vaginal fistula alone, other evil results, besides the inconvenience, would arise.

NITRIC ACID IN HÆMORRHOIDS.—M. Gosselin speaks very highly, in the *Gazette des Hôpitaux* of last December, of the use of monohydrated nitric acid, for destroying the inconvenient venous enlargements of the lower part of the rectum. He prefers this method to the hot iron and the écraseur. This approval is certainly flattering to the surgeons who, on this side of the Channel, have operated for many years past in the same way, though M. Gosselin very sparingly alludes to their labours.

Reviews and Notices of Books.

Clinical Memoirs on Diseases of Women. By ALFRED H. M'CLINTOCK, M.D., late Master of the Dublin Lying-in Hospital, &c. Dublin: Fannin and Co.

THE medical world has long been accustomed to receive copious and solid knowledge in all that relates to obstetric practice from their brethren in Dublin. A long list of worthies, many of whom have made great reputations through the clinical facilities offered by the celebrated lying-in hospital of the Irish capital, have continuously sustained the fame of the Dublin school. If anything could reconcile us to the institution of lying-in hospitals, it must be the singular opportunity they afford for clinical study, and the admirable contributions which those eminent men who have profited by the opportunity, such as Clarke, Collins, and the author whose last work is now before us, have given to obstetric science. Dr. M'Clintock's "Memoirs on Diseases of Women" are conspicuous for the distinguishing virtues of the school to which he belongs—namely, their essentially clinical character, and their sober truthfulness. These Memoirs embrace a wide portion of the field of female diseases. But the author makes no pretension to having produced a complete system of gynæcology. The Memoirs form rather monographs on particular diseases than a combined system of the pathology of the female sexual organs. Not the less valuable on this account; for, inspired by personal experience, these Memoirs convey instruction similar in kind, if not equal in degree, to that which a student derives from clinical observation under the guidance of an accomplished physician. Confining himself very much within the bounds traversed and closely surveyed by himself, Dr. M'Clintock tells us candidly and clearly what he has seen, without dogmatizing, without straining to fabricate specious generalizations. Dr. M'Clintock's book is not, in short, a book of rounded formulæ, of abstractions more or less resembling many truths, but not being a correct reproduction of any particular truth, such as our statistical or closet authors think the highest expression of wisdom. Here we have vivid pictures of actual cases, such as will happen again, and which we shall be able to recognise more readily and to treat more successfully for having thus shared in the experience of the author.

The subjects illustrated comprise a very extensive range of female diseases. Pelvic cellulitis, puerperal and non-puerperal; procidentia uteri and the uses of pessaries, inversion of the uterus, fibrous tumours, polypus, tumours of the vagina, tumours of the vulva, pelvic hæmatocele, pudendal and uterine hæmatoceles, stone in the bladder, mammary inflammation and abscess, secondary hæmorrhage after parturition, the semeiological value of the pulse in childbed, dropsy of the ovum, and cystic disease of the ovum, are the titles of the principal memoirs.

None of these, indeed, are exhaustive in character. The author does not pretend, as do some others who might be mentioned, to have attained by his unaided genius to absolute obstetric wisdom; he does not denounce men who differ from him as "ignorant perverts in midwifery," but modestly lays before us his facts and his reflections, which we may safely use to enlarge our own stores of knowledge, and to correct our previous conclusions.

We cannot, of course, analyze each of these memoirs. We can only refer to a few passages of practical interest. In discussing the treatment of Procidentia Uteri, Dr. M'Clintock, when dealing with cases of excessive enlargement from infiltration obstructing reduction, resorts to the plan of strapping the tumour with strips of adhesive plaster, and speaks highly of its efficacy in reducing the bulk of the swelling, and thus facilitating reduction.

The paper on Inversion of the Womb is especially rich in facts, and is admirably illustrated by several drawings of uteri removed by operation. The author does not speak hopefully of attempts to reduce inversions of long standing, and in cases where symptoms are so urgent as to endanger life decides in favour of extirpation. The particular operation he prefers is to ligature the uterus for forty-eight or seventy-two hours, and then to complete its removal by the écraseur. This temporary application of the ligature, while it removes all risk of hæmorrhage, tends to excite adhesive inflammation between the opposed surfaces of the peritoneum in the pouch of the inverted uterus immediately above the line of strangulation. Three cases of successful extirpation of the inverted uterus are related.

An especially valuable chapter is that on Tumours of the Vagina. Equally so is the succeeding one on Tumours of the Vulva. We do not know where else to look for an equal amount of clinical information upon the abnormal growths of these parts. Indeed, other clinical as well as systematic works are exceedingly deficient in instruction upon this subject. Several excellent engravings illustrate this chapter. The author describes warty and hypertrophic tumours, fibrous and fatty tumours, cystic tumours, vascular tumours, and cancroid and carcinomatous tumours. He suggests that hypertrophic tumours of syphilitic origin may be distinguished from other tumours of the nymphæ by the deeply fissured and tuberculated character of the former, the latter being, it is presumed, generally only rough on the surface.

The obstetric practitioner will read with interest the two excellent chapters on Pelvic and Pudendal Hæmatocele or Thrombus. One passage only can we cite:—

"Gooch was the first to call particular attention to the fact that post-partum hæmorrhage occasionally takes place with a firm contraction of the uterus. The production of the hæmorrhage in these exceptional cases he attributed to undue excitement of the vascular system. Without at all wishing to deny the influence which vascular disturbance may exert in causing uterine hæmorrhage at this particular period, I yet cannot help thinking with Dr. Montgomery that the rupture of a uterine thrombus, and consequently the open state of some vessel or vessels in the cavity thus formed, is very often the real cause of this 'peculiar form of hæmorrhage,' as Gooch termed it. 'It is to be recollected,' observes Montgomery, 'that just where the thrombus forms is precisely the situation in which the contractile power of the organ is most feeble; and should it happen towards either side, it is then close upon the very part where the bloodvessels send in their largest supply to the uterus.'"

The cases recorded by Dr. M'Clintock show that uterine hæmatocele has a close bearing upon three of the forms of hæmorrhage incident to labour—viz., hæmorrhage in the second stage of labour, hæmorrhage immediately succeeding parturition, and secondary hæmorrhage occurring some hours or days after delivery.

In discussing mammary inflammation and abscess, the author states, as the result of his experiments, that the application of belladonna, so much lauded by some, exerts scarcely any perceptible effect. This quite accords with our own observations. The one great and effective principle of treatment of mammary abscess is *rest* as secured by pressure. The practice advocated is most judicious and successful.

There is no memoir in the collection that more clearly exhibits the author's clinical skill and medical sagacity than the one devoted to the determination of the semeiological value of the pulse in childbed. His experience leads him to insist upon the necessity of carefully noting the state of the pulse at *every visit* to the puerperal patient. The importance of its indications, he says, can hardly be over-estimated; and when it ranges above the healthy standard, this circumstance should be regarded as *primâ facie* evidence that all is not right, and should lead to a more minute investigation. Even when no puerperal disease can be discovered to account for the symptom, a guarded prognosis should still be given, and a cautious expectant line of treatment should be adopted. We cannot set forth in detail the interesting observations which led the author

to these conclusions; but it is right to state that he has been confirmed in all essential points by the subsequent independent researches of Professor Levy, of Copenhagen.

This rapid survey of the principal topics treated of by Dr. M'Clintock in this work, will serve to indicate the nature of the information to be found in its pages. The well-earned reputation of the author for experience, clinical skill, soberness of judgment, and rigorous truthfulness in narration, renders it superfluous for us to recommend it to our readers for attentive perusal. It is a book such as the practitioner and the teacher will alike appreciate. The author bears his testimony to the value of the labours of the Obstetrical Society of London in the most gratifying form. He makes frequent references to the volumes which record the "Transactions" of that active and prosperous body.

A word of praise is due to the artist whose skilful hand has illustrated the book. It is a singular merit of this work that all the engravings are original, and taken with great care and faithfulness from nature. By themselves they constitute a valuable contribution to obstetric knowledge.

THE CONVICT, CHARLES FOOKS.

To the Editor of THE LANCET.

SIR,—The convict, Charles Fooks, found guilty of the wilful murder, with malice aforethought, of his cousin, David Stone, is condemned to die on the 27th instant. It has been found difficult—so strong is the prejudice against him in Dorsetshire—to procure sufficient signatures to a petition for a remission of his sentence. The Rev. C. W. Templer, the minister for the last fifteen years of the parish in which Fooks resides, the chaplain of the gaol in which he is confined, and the writer of this letter, have—we fear imperfectly and informally—laid the evidence of the insanity of the convict before the Home Secretary, and have petitioned for a pardon, or for a reprieve in order that the mental state of the unhappy man may receive further investigation. If this be granted, you may think it well to have placed before the public the probable reasons upon which such a measure of grace was afforded to the prisoner; if it be not, and this monomaniac, as we believe him, is hanged, the publication of the medical history of the case may lead to serious investigation into the causes of the present unsatisfactory antagonism between science and law on the subject of the responsibility of the insane.

Charles Fooks is a remarkably fine, handsome man, more than six feet four inches in stature; his countenance is pleasing, and its expression intelligent. He is now in the very prime of life. His moral character and his kindness of disposition were attested by all the witnesses that were called. He was never married: first one and then another young woman to whom he became attached died, he told me, within a year of their engagement to him, and he then determined to remain single.

Sixteen years ago, in the language of Mr. May, a surgeon, who was called for the prosecution, Fooks had a monomania that people were laughing at him: for six consecutive weeks he kept his doors and windows barred up, and covered his head with a blanket. All this Mr. May considered hypochondriasis. Fooks was at last persuaded to consult Dr. Smith, of Weymouth, who considered his case to be one of hypochondriacal dyspepsia. It would appear that Fooks did not complain at that time of anything but his physical symptoms; he said nothing of his persecutions. Under treatment, Fooks seems to have got better, but the delusion as to people mocking and scoffing at him remained, and continues to this day. About four years after this illness, the Rev. Mr. Templer, noticing the absence of Fooks from his church, called to expostulate with him, and received for an answer the extraordinary statement that Fooks would not go because the neighbours all jeered him, and *especially the squire's lady and Stone.* It need hardly be, said that there was no foundation whatever, in Mr. Templer's opinion, for such an impression.

In 1854, Fooks appears to have had an exacerbation of his malady—this is erroneously designated by Martha Hallett, who was then only a girl, as her uncle's *first* attack. He then ordered off his two nieces, and accused them of making fun of him; if they smiled, he thought they were laughing at him; his manner was strange, and he complained of his head, which he bathed constantly with vinegar and water.

During the interval between this attack and the paroxysm that resulted in homicide, Fooks continued his insane animosity towards Stone, on one occasion, without any provocation, throwing from behind a hedge a large pebble at him as he walked along; he also took up the idea that Stone might have planted one of his fields with dock. It was observed by the counsel for the prosecution, and dwelt on by the learned judge, that in this interval Fooks was elected overseer and waywarden of his parish. This might not be absolutely incompatible with a state of monomania, but the fact ceases to have any significance when it is explained that there were only three ratepayers to choose from, and Fooks was obliged to ask a friend to manage his accounts, and help him to make a rate upon the other two parishioners.

In 1862, the morbid condition of Fooks's mind culminated in a paroxysm of homicidal mania; he talked of nothing else but killing some one, and then himself. His delusion about Stone acquired increased force; he thought Stone came to listen under the windows; he accused his niece of being with "that fellow Stone," to whom she had not spoken for two years. Witness after witness deposed to Fooks having told them he should shoot some one, and then himself. Conscious of his state, he expressed his fear of being sent to an asylum; he implored Dr. Smith to help him to drive the devil out of him; he expressed his intention of barring up the doors and windows, and dismissed his two farm-servants in the middle of the haymaking, under the old delusion that they were mocking and scoffing at him. He begged his nieces to leave him, because, he said, they were not safe, and he asked their father to take them away for the same reason. He complained that he knew not what he said or did. At last the nieces become alarmed, and do leave him. He has eight guns, always loaded, in his possession. The next morning, the first day he is alone, he sees Stone from the window; "all in a daze," he runs down to the door, and shoots him, his own cousin, dead, as he passes by the house. I pass over the details of Fooks's subsequent attempts at self-destruction: he was found locked in his room, "all of a heap," on the floor, and covered with blood, the loss of which seems to have restored him to calmness. He had laid bare the bone of his forehead to the extent of four inches, and narrowly escaped with his life from the effect of this and his other severe wound.

I saw Fooks in Dorchester Gaol on the 8th of March; he was then, in my judgment, a monomaniac, and, if he were free, would be dangerous to anyone whom he fancied was laughing at him. His disorder is of a chronic form, and attended with periodical exacerbations, inducing a desire to kill himself or others, which I have no doubt at last overpowered his self-control, and led to the death of Stone. I may add that, from first to last, not one tittle of evidence was brought forward to show that Stone had ever quarrelled with Fooks, or that there were any grounds for the insane hatred the latter cherished against him. The only reason Fooks himself could suggest was that Stone *might have planted* his fields with dock.

The surgeon of the gaol and his partner deposed that they could find no symptom of insanity about Fooks; they had talked to him about the crops, the weather, &c.; but neither of them had learnt his history, nor had either of them examined him upon the delusive impressions he entertained.

Upon these facts, or some of them, the judge who tried the case left simply this issue to the jury:—At the time of the murder, did Charles Fooks know right from wrong?—for if so, sane or insane, it is your duty to find him guilty. Most ably and fairly the learned judge, Serjeant Shee, discharged his functions; but I venture to think that in the nineteenth century justice will hardly wreak its vengeance upon a lunatic, or hang a monomaniac on a point of law. "The execution of a madman," says that great lawyer, Sir Edward Coke, "would be a miserable spectacle, and one of extreme inhumanity and cruelty."

Since, however, the teaching of science and the result of long experience cannot successfully urge the acquittal of a lunatic like Charles Fooks against an inexorable, and, I believe, a mistaken legal test of his responsibility, I can only express my hope that this case may lead to re-examination of the famous decision of the judges, and an inquiry into the universal applicability of this test; and that the mercy of the Crown may be extended to the unhappy prisoner, now in peril of death for a crime which he struggled long against, a crime inconsistent with the tenor of his blameless life, and one which can only be considered as the effect of the mental disease with which God, in His mysterious dispensations, has seen fit to afflict him.

I am, Sir, your obedient servant,

Albemarle-street, March, 1863. HARRINGTON TUKE, M.D.

THE LANCET.

LONDON: SATURDAY, MARCH 28, 1863.

IT may be that before this reaches our readers the miserable man FOOKS will have ceased to live. We, however, are guiltless of his blood. The present state of the law as regards the plea of insanity of necessity excludes from its protection all those whose mental unsoundness does not incapacitate them from reasoning on the character and consequences of their acts, and therefore leaves many cases of insanity outside its provision. The letter of Dr. W. SMITH, which we published in our number of last week, read in connexion with the circumstances of FOOKS's act, is such as will leave little doubt on the minds of those conversant with mental diseases as to what was FOOKS's real condition. We have already expressed our opinion. By a sad coincidence, another case has been tried at Maidstone which places even in a stronger light the need for some further legislation on this subject. A young man named BURTON, aged eighteen years, was indicted for the murder of a boy on Chatham lines last summer. The case was simple, though very shocking. The young man himself stated that he had felt an impulse to kill some one; that he had sharpened his knife for the purpose, and went out to find somebody on whom he should use it; that the poor boy was the first person he saw; that he followed him to a convenient place upon the lines, knocked him down, cut his throat, knelt upon him, and pressed the blood out of him till he was dead. This was the account which the prisoner had himself given of the act; and the only question was as to his accountability for it. He was indicted at the winter assizes, before Mr. Justice BYLES. The Grand Jury returned a true bill for murder, on which he was arraigned. Mr. RIBTON, who was retained for his defence, however, applied for a postponement of his trial, in order to afford time to obtain evidence as to the state of his mind. It was thus that the case stood for trial at the late assizes. The circumstances of the accused were very poor. His friends had no means of procuring any medical practitioner conversant with mental diseases for the purpose of visiting him. The prisoner took pleasure in the recital of the occurrence, and expressed his determination to plead guilty in hopes of ensuring his execution. This he did when placed at the bar; but the Judge ordered the plea to be withdrawn, and the evidence to be proceeded with.

On the morning preceding the trial, Mr. RIBTON appealed to Mr. Justice WIGHTMAN, who presided in the Crown Court, and urged the necessity of the prosecution procuring some medical men with experience in insanity to examine the prisoner, and to be present during his trial, for the purpose of giving scientific evidence as to the medical signification of the facts deposed to in reference to him. This appeal was refused on the ground that the Judge had no funds at his disposal for that purpose. The defence, therefore, rested on such evidence as was procurable from witnesses whose charity induced them, at personal sacrifices, to inform the Court of the prisoner's previous history. The chief witness was Mr. H. FAYLE, of Chatham, who stated that he had attended the prisoner's family, and had sent his mother on two occasions to a lunatic asylum; that she was low and desponding, and attempted suicide. The prisoner's brother was also of weak intellect. On two occasions he had attended the prisoner. He believed him to be suffering from a form of moral insanity, and, though he knew the consequence of what he was doing, he had no control over himself. This mental state, in his opinion, was due to some deviation from the normal condition of the brain. A witness, named ANDREWS, to whom the prisoner had been apprenticed in 1859, stated that he had then a very vacant look, and "no set purpose," and when told to do anything, would often run about, looking up to the sky as if he were a maniac. Very often he would drop his tools, and run out of the shop, and pace backward and forward as if absent in mind. In May, 1860, he went away, and a few days afterwards came back "in a most wretched state," as if he had been surfeited. He said he had been to Canterbury to try and enlist as a soldier, and had been in the barracks, and that he had run back the whole way. He remained a few months, and then again went away for a few days. The witness refused to take him back. Other witnesses deposed to several extraordinary and unusual acts on his part, and all believed he was of unsettled mind. In reply to their evidence, Mr. JOY, Surgeon to the County Jail, and another medical man were called, who during their professional visits to those in confinement had observed nothing unusual in the prisoner's demeanour. On cross-examination, they admitted that he had urged the propriety of his own execution, and they regarded a desire to be hanged as indicative of the presence of delusion. It was to no purpose that Mr. RIBTON, in an address of singular ability, reviewed the theories of insanity, and pointed out their inapplicability to this special case. In vain he urged that his application to the Court had failed to procure for the wretched youth on his trial the only evidence which would warrant the Crown, whose object it ought to be to throw the fullest light on all the circumstances, in asking for a verdict of guilty. He wished for impartial testimony such as that of Dr. FORBES WINSLOW or others, who might assist the jury in arriving at a just conclusion, and prevent ignorance, prejudice, or fear determining the character of the act from its necessarily imperfect and one-sided investigation.

Surely in a case of this nature, in which, without violence to justice or reason, there was the very strongest presumption of insanity, the Crown ought to have neglected no means available for its own satisfaction and that of the country on so important a question. Mr. Justice WIGHTMAN, in the absence of such testimony, seemed to form his views on the abstract facts, and to regard the act of killing as a crime in itself, and not to consider either the motives or the origin of the motives which induced its commission. He drew a contrast between HATFIELD's case and that of the prisoner, stating that in the former wounds had been received on the head which were proved to have injured the brain. Is physical injury to the brain necessarily a condition precedent to the development of this form of mania? He referred to the rules in MCNAUGHTEN's case as being inflexible, and proceeded: "The medical man called for the defence defined homicidal mania to be a propensity to kill, and described a moral insanity, under which a man, perfectly aware that it was wrong to do so, killed another under an uncontrollable impulse. This would appear to be a most dangerous doctrine, and fatal to the interests of society and the security of life.

Surely such a theory was as contrary to common sense as it was to law. The rule as laid down by the Judges was quite inconsistent with such a view; for it was, that a man was responsible for his actions if he knew the difference between right and wrong."* So instructed, the jury found a verdict of Guilty. In passing sentence, his Lordship observed to the prisoner, who smiled throughout,—"The jury, who are the proper judges of the fact, and who have, I am sure, attended most carefully to the evidence, have come to the conclusion that you are guilty of a murder more barbarous and inhuman than any that has come under my cognizance during a judicial experience of upwards of twenty years." Having reasoned with him as to the theories of insanity advanced on his behalf, "the learned Judge then passed sentence of death in the usual form." We cannot more fittingly conclude this horrible detail than in the observations of the reporter, who evidently regarded the accused as a rather intellectual person:—"The prisoner, who had listened throughout with serious attention, assumed at the close the air of callous indifference, which seemed his habitual expression; and after a pause of a few moments, in which a sense of awe seemed to struggle with the desire to take a tone of bravado, he evidently almost forced himself to brazen it out, and, with an impudent smile, said, 'Thank you, my Lord,' and went quickly down the dock, followed by an audible murmur and almost a cry of horror from a densely crowded court." The prisoner had been described as laughing at the most serious part of his Counsel's address.

In this case the Judge gave the fullest expression to the several dicta of law to which we last week directed attention. He ignored the existence of homicidal mania as outside their category, and forcibly impressed on the jury that the question of responsibility for an act was involved in the knowledge of its being right or wrong. We venture to affirm that the disease known as homicidal mania without delusion is as distinct a form of mental affection as any known to the physician; and that this disease may coexist with a knowledge of the character and consequences of the act, and yet such mind be an irresponsible mind. Judges have admitted this in practice, if not in words, where circumstances left no escape. On the trial of FROST for the murder of his children, Mr. Justice WILLIAMS said, in charging the jury: "It was not merely for them to consider whether the prisoner knew right from wrong, but whether *at the time he committed the offence he was deranged or not.*" Adopt this wide basis, and consider for a moment the case of BURTON:—A youth of eighteen; not previously convicted of any crime, and manifesting no unkindness of disposition; mother deranged, with suicidal disposition; brother of unsound mind; conduct so peculiar as to attract the attention of all; having a morbid desire to be hanged, leading to the perpetration of a terrible act in order to ensure such an execution; the act committed on a victim previously unknown; the immediate detail of the entire transaction to the police; the haste to plead guilty; the satisfaction during the trial; the pleasure at the sentence, and the indifference since. In vain might Mr. Justice WIGHTMAN, in his long experience, look for a similar example amongst criminals: such individuals must be sought for in asylums, not jails. This poor miserable outcast lies in prison awaiting the consummation of his wishes; and up to the present time, so far as we can learn, no medical practitioner of special experience in insanity has examined him on the part of the Crown. Surely this is neither merciful nor just. If it be thought advisable that execution should follow on every act of killing, let it be so understood. Enlightened Judges may repeat the observation of one of their brethren, who, on the trial of OXFORD, in reference to the citation of such a case, interrupted Counsel by the remark—"BOWLER, I believe, was executed, and *very barbarous it was!*" "Such," said the present Lord Chief Justice, who defended MCNAUGHTEN, "was the expression of Mr. Baron ALDERSON, and *I rejoice to be able to cite it.* I reverence the strength of feeling which could alone have given rise to that strength of expression." And yet the Lord Chief Justice presided at the circuit where medical aid in this case was unable to be given.

Mr. Baron BRAMWELL (in REGINA *v.* HAYNES, 1 FOR. & TEL., 600) observes: "The act being apparently motiveless is not a ground from which safely to infer the existence of insane influence. Motives unknown may exist. A *morbid thirst for blood* would itself be a motive urging to the deed." We do not yield to this learned Judge in his abhorrence of such acts. We have no wish to deprive the scaffold of any wretch who by a career of crime has excluded himself from human sympathy. Society must be protected, and law vindicated. Surely, however, if a man BE INSANE, we would be the criminals if in such a case we did not seek to arrest the arm of vengeance, and at least demand that an opportunity be afforded to those competent to advise the Crown to examine into the mental condition of one believed to be so afflicted. It is too true that of late years philanthropy has dissipated its resources most unwisely, and a misplaced sentimentalism removed from the prison even the semblance of punishment, and relieved offenders from the burden of crime. This grave error has been productive of much evil. Society, in retaliation for its own mistake, is well disposed to confound fear with justice, and not unwilling to run into the opposite extreme. Our duty is to stand apart, and on all occasions, when the operations of disease demand elucidation, to (as far as lies in our power) see that they receive it. In the present case we trust the Home Secretary will direct a suitable examination. We boast that our progress in science has exalted our sense of humanity. It is thus *The Times* expressed itself on the 19th instant:—"Ever since the violent system of dealing with the insane was exploded as inhuman and flagrantly unsuccessful, the tranquillizing influences of out-life, far away from noise and excitement, have been more and more appreciated..... Formerly a madhouse, as it was called, was a place for the confinement of those who, being dangerous to society, were regarded as little better than criminals, and being incapable of asserting their rights, were exposed to brutality worse than any sane criminals would have endured. In these days we like to think of them as temporary refuges for those afflicted with the greatest of human misfortunes, where the tottering brain may recover its tone, and the tottering reason may be restored to its equilibrium."

Are these mere phrases incapable of assuming action? If so, to what degeneracy have we not fallen! If, however, they are living words, as we believe they are, penned in truth and replete with wisdom, we do not yet despair of seeing some influence exerting itself in this miserable youth's behalf, and of hearing that directions have been given by the Home Secretary

* *The Times*, March 19th.

for competent medical practitioners to examine the mental condition of this unhappy inmate of Maidstone Jail. We at least will be satisfied with the result.

MR. HUBBARD on Wednesday last made another attempt in the House of Commons to carry a resolution affirming that "the principle of an Income-tax touching the products of invested property should fall upon net income, and that the net amounts of industrial earnings should, previous to assessment, be subject to such an abatement as may equitably adjust the burden thrown upon intelligence and skill as compared with property." In support of his resolution, Mr. HUBBARD advanced a variety of arguments to show with what undue severity the tax pressed upon the incomes of medical and other professional men. It is scarcely necessary to recapitulate arguments which must be familiar to our readers. The members of the medical profession, supported in this instance by the corporations, had petitioned in favour of Mr. HUBBARD'S resolution. It is evident that they are deeply interested in this question. The income of no class of the community is more precarious and fluctuating than that of medical practitioners. Upon this and other grounds which it is not necessary to specify they have a strong claim upon the Legislature for consideration. Not so, however, thought the Chancellor of the Exchequer, who, in his attempt to rebut the arguments of Mr. HUBBARD, repeated the string of platitudes with which he had on former occasions defended the principle on which this most unjust tax was based. He was compelled to admit, nevertheless, that it did not stand upon a "perfect structure." But his chief argument was founded on the "impracticable and visionary" nature of the proposition of Mr. HUBBARD. This is the old cuckoo-cry made in the time of PITT and his successors, and continued up to the period when the last Income-tax was repealed. But we venture to affirm that the labours of Dr. FARR prove satisfactorily to any unprejudiced mind that nothing is less "impracticable or visionary" than an equitable adjustment of a tax upon income. Dr. FARR proved, we think incontestably, that capitalization of income might be calculated in such a manner as to make the assessment correspond with almost mathematical precision with the *property* of the individual assessed. The statements of Dr. FARR have as yet virtually remained unanswered. Objections have undoubtedly been raised against them, but they have not had the force which entitles them to respect. They are specious, but not sound; have served the purpose of expediency, but not of truth. They are suited to the exigencies of a tax-imposing Government, but they are opposed to the principles of common sense and justice. Mr. HUBBARD'S resolution, as might have been expected, was negatived by a majority; the numbers being 118 to 70.

Medical Annotations.

"Ne quid nimis."

THE WRONGS OF ARMY MEDICAL OFFICERS.

THE free discussion in these columns of the grievous wrongs inflicted upon the surgeons of the army has at least been productive of partial good. The authorities have been so far shamed into the confession of their injustice as to apologize and to offer some lame excuses, coupled with dubious promises for the future. There has been of late a frequent low-murmured announcement of an intention partially to restore the advantages wrung from the Horse Guards by the revelations made to Lord Herbert's Commission, and a renewal of the privileges solemnly granted by the Warrant, but subsequently withdrawn by slow and insidious steps. The semi-official organ of the military head-quarters, in alluding to what it is pleased to term the "fulminations" of this journal, announced recently that a new Warrant was about to be issued, which would again grant "relative rank according to the date of the commission, choice of quarters regulated by the same standard,—and everything, in short, that could be desired, except purely military command." Sir George Lewis, in answering General Peel the other day, repeated, in far less ample and precise words, the same kind of promise. But the word of promise has too often been kept deceitfully to the ear and broken in the spirit not to inspire the medical officers with a distrust which nothing can eradicate but the actual restoration of their privileges, and the total change of the present insulting and repressive policy.

It is part of the system to misrepresent the medical officers as always having desired "a purely military command." They are not so forgetful of their own dignity or so regardless of common sense as ever to have entertained such a desire. They wish for the relative rank which was granted to them by the Warrant, and all the social and material advantages at mess, in quarters and allowances, and in mixed boards, which go with that rank. They desire the treatment of gentlemen—a fair amount of leave such as is accorded to combatant officers, and something like just recognition of unusual services and meritorious labour. At present they get none of this: they are systematically snubbed; and the junior officers, seeing that this is the spirit of their leaders, are not slow to follow in their steps.

The result is not merely that vacancies can now be filled only by the sweepings of the medical schools dragged together, as at the last examination, at the last moment to avoid a disgraceful exposure of the unpopularity under which the service now justly labours, but the best men are rapidly leaving it when they are able to free themselves from its oppressive trammels. We hear this week of the resignation of Mr. Frank Buckland, M.A., assistant-surgeon of the Guards. Mr. Buckland is well known, out of the army as well as in its ranks, as one of the officers who most adorned the department. As a university man of high general as well as professional acquirements, widely known and distinguished for uncommon zeal and activity, faultless in the performance of his regimental duties, and placed on one of the most favoured regiments, he had more apparent inducements to remain than very many who are condemned to drudgery in foreign and country stations, and have no opportunity of varying the routine of monotonous annoyance by the social regard which is accorded to the members of our profession in civil life. But it is understood that Mr. Buckland leaves the Army Medical Service entirely and solely from the dead feeling of discouragement which the present management of the department has so unpleasantly impressed upon nearly all its members. There is no better prospect for the hardworking and meritorious officer than for the most indolent and incapable. The rule of seniority is carried out strictly even to days; and there is not the least inducement for working hard and well in any given direction. If any fortunate young man happens, as in a recent instance which has become notorious, to be a favourite with certain paramount personages, then, indeed, the unbending law is broken violently, and a sudden promotion is made, contrary to all precedent and without a shadow of valid reason; but it is openly avowed that no amount of work, merit, or ability gives any claim to advancement.

The retirement of Dr. Franks, who had already rendered great services to the ophthalmological training of army sur-

geons, was another instance in point; and we could name scores of others, including some of the very best men in the service, who would anxiously desire to leave it, were they not so long and so deeply committed to the thankless career. The end of all this may easily be foreseen, for the drama has already once before been acted out. A costly army will be ill-officered by inefficient surgeons, reduced in number, disheartened by the absence of any prospect of reward for extra study and diligence, and chosen from among the poorest and least capable of students, lagging in the rear of a science with which they have no encouragement to make efforts to keep pace. Then, should any great war break out, the disgraceful scenes of the Crimean campaign may be anticipated: the patriotism of the civil profession will be invoked; and the schools will be ransacked for raw students as "acting assistant-surgeons." A General smarting under a bullet-wound loses his jealousy of the surgical profession; and, unable to find a supply of competent gentlemen among the members of the oppressed department, civil surgeons will be bribed by large salaries to leave the hospitals, and be drawn into the field and placed over the heads of their army brethren, as in the Crimean campaign; and a general breakdown will be accompanied by huge disaster and followed by popular execration.

The shortsighted policy of oppressing the Medical Department in time of peace deserves to be denounced in language stronger than we care to employ. But there is only one effectual remedy: it is for the students of the medical schools to resolve not to enter the army until the present grievances are actually and effectually redressed. Some unfortunates will perhaps always be found to accept the pittance offered, however unpleasant may be its accompaniments; and when the screw is applied so tightly as it is understood to have been at the last call for candidates, a certain number may be hunted together. We will say nothing of the *esprit de corps* of those gentlemen. But in the face of such a falling-off in the quality and quantity of candidates as is now manifest, and is likely to continue under existing circumstances, redress must be afforded; and then students will be able to enter with the satisfaction of knowing that honourable treatment has been secured for themselves and others.

Since the above was in type, we have received an official copy of the new Warrant. We print it at page 367. It is a distinct and important concession—an act of retraction and practical apology. Thus far we may congratulate ourselves and the civil profession on having won for the army medical officers a battle which they are powerless to fight alone. But the reservation as to courts-martial (which is a revocation of a right hitherto enjoyed), and the direct order that the guard shall not turn out to pay that mark of respect to medical officers which they do to others, are on the very surface indications of a bad feeling towards the medical officers, and of that disposition to depress their social position which is rampant among the dependents of the Commander-in-Chief, as in their superior. The junior surgeons are benefited by this Warrant, but the seniors do not, so far as we see, gain much, if anything by it.

TOWN AND COUNTRY.

WHILST the executive authorities of St. Thomas's and Bethlehem Hospitals are investigating the money value of the latter establishment, in order that it may become the future St. Thomas's, the great benefits which a change of sites of these two institutions would confer upon humanity, whether suffering from bodily or mental disease, must not be overlooked. From the recent discussions among the governors of Bethlehem, the public begin almost to believe that some of these benevolent gentlemen are more anxious to enhance the material advantages, and hence the price, of their own structure in St. George's Fields, than to possess a new building, better adapted for lunatics, in a healthier locality, away from any urban population. Instead of haggling about the exact amount of money to be paid by one party to the other, let that question be referred to some competent umpires named by the Corporation of London—the guardian of the four Royal hospitals,—who would decide the question impartially. This point is very simple, and might be settled without difficulty, were all parties only actuated by a sincere desire to accomplish an object so likely to prove beneficial to those most concerned. The governors of each charity ought further to remember that, having been endowed by former beneficent monarchs, the one to relieve bodily disease, the other to alleviate mental alienation, even should one institution ultimately gain a few thousands by the transaction, such result will merely enable the recipient to dispense a larger share of relief.

Should any sacrifice be requisite in order to effect such great benefits, it ought certainly to be made on the part of the Bethlehem governors, who would not only thereby get rid of a building much behind the present age in its internal capabilities for treating lunatics, but would also be able to construct another hospital in a more eligible rural situation, not far from London, which shall combine many modern improvements dictated by science and experience. In fact, it is almost impossible to calculate the advantages of the removal of Bethlehem Hospital to some more rural district, having spacious grounds adjacent for open-air exercise and for the out-door employment of patients—so necessary in the treatment of insanity.

It is admitted on all hands that the removal of Bethlehem Hospital is urgently called for. Why does it still encumber the ground? Why are its unhappy inmates still detained from the country which invites them? At the present moment, the Paris municipality is removing the Salpêtrière into the country; and every capital and large town in Europe is following, or has already adopted, analogous proceedings. Should the authorities of Bethlehem Hospital unfortunately hesitate to follow a movement so universal, and which is so cordially sanctioned by the public and by the medical profession, but finally determine to remain at Lambeth, their decision will be regarded as a deliberate adhesion to bygone theories, a perpetuation of the obstinate policy which has several times brought the administration of Bethlehem into conflict with the Government, and a wanton cruelty towards the helpless creatures committed to their charge.

MEDICAL FELLOWSHIPS AT CAMBRIDGE.

RECENT official notice has been given that

"An examination for three Foundation Scholarships, and also for three Minor Scholarships, will be held in Downing College, Cambridge, on Monday, the 18th of May next, and the two following days, and will begin at nine A.M. on Monday. The examination will be chiefly in Classics and Elementary Mathematics, but some weight will be given to proficiency in French and German. To the candidates for Foundation Scholarships two additional papers will be set, one on Moral Philosophy in connexion with the principles of Jurisprudence, the other on the Elements of the Natural Sciences in connexion with Medicine—viz., the Elements of Human and Comparative Anatomy, Physiology, Chemistry, Mineralogy, and Botany; and in awarding two of these Scholarships considerable importance will be attached to any special proficiency in the Legal or in the Medical subject. Persons who have not been entered at any College in the University, or who have not resided one entire term in any such College, are eligible to the Minor Scholarships, which will be of the value of £40 per annum, and tenable for two years, if the holder be not elected before the end of that time to a Foundation Scholarship. Students of the College, or of any other College in the University, who have not kept more than six terms, will be eligible to the Foundation Scholarships, which will be tenable for three years, and of the value of £50 per annum, with rooms, and with commons during residence in term time. These Foundation Scholars who shall obtain a first-class in any tripos will be entitled to hold their Scholarships till they are of standing for the degree of Master of Arts, or, if they should be elected Fellows of the College before that time, until such election. No one elected

Scholar will receive any emoluments until he has commenced residence as a student of the College. Satisfactory testimonials as to their moral character must be sent to the Master by all candidates for these Scholarships on or before Wednesday, the 13th of May.

"Further information will, if required, be given by the Rev. W. P. Pike, tutor, Downing College."

We gladly take this opportunity of directing the attention of the medical profession to this Foundation. Under the statutes framed by the University Commissioners, a copy of which lies before us, dated Oct. 24th, 1860, this College is to consist of a Master, two Professors (one of the Laws of England and one of Medicine), and of at least eight Fellows, and ten Scholars. Of these eight Fellowships, six are called Non-resident Fellowships, and are designed for persons engaged in the study or active pursuit of the professions of Law or Physic, and from whom no residence in the University is required. All persons are eligible who have taken a degree in Arts, Law, or Physic, and who are not above the age of thirty years. They are tenable for twelve years, and are vacated by entrance into holy orders within six years after election, or by becoming entitled to a permanent income of £300 per annum, but are not vacated by marriage. The other two Fellowships are called Resident Fellowships, and are designed for persons who are to take part in the tuition of the College, and who are bound to reside. With certain restrictions these are tenable for life.

The Scholars are to be elected from among the students of the College or of the University, entirely by examination, and each of them is to receive not less than £50 per annum. In addition to this, such Scholars as the Master, Professors, and Fellows shall, from time to time, determine, are to enjoy rooms rent free, and for commons one shilling and sixpence for every day of their respective residences. These Scholarships are tenable until the scholars are of standing to take the B.A. degree, and in case of special merit, the Master, Professors, and Fellows have power to prolong the tenure an additional three years. The College have also the power to offer any number of minor Scholarships, inferior in value to the Foundation Scholarships, for competition amongst persons who have not been entered at any College in the University, or who have not resided one entire term. The present society consists of a Master, two Professors, two resident Fellows, and one non-resident medical Fellow; but by a special clause in the statutes, of the five additional Fellows, one must be elected before October, 1865, at the furthest, and one, at least, in every subsequent alternate year.

It will be seen from the above statement, that very considerable assistance is held out to those students of Medicine who have ability and are determined to work. The Scholarships to be awarded on the 18th of May next will, with the rooms and commons, amount to nearly £90 per annum, and if the scholar obtains a first class in the Natural Sciences Tripos, the subjects of which are intimately connected with Medicine, he retains his Scholarship altogether for six years, receiving, therefore, about £500, besides which, there is the ultimate prospect of a Fellowship. We doubt not that the institution of these Scholarships and Fellowships will give a considerable impetus to the study of Medicine and of Natural Science in the University of Cambridge.

In this country a few Foundations at least of this kind are especially wanted for the encouragement of men whose vocation is rather pure scientific study than medical practice.

THE PHILOSOPHY OF SUICIDE.

THE analogy between suicidal and homicidal mania has been much dwelt on in the consideration of recent cases. The opinion of Dr. Forbes Winslow has been quoted in support of the proposition that a suicidal act is, in every instance, indicative of insanity. Those who closely study the writings of this eminent authority will be satisfied that he abstains from so dogmatic a conclusion. Fifteen years have elapsed since Dr. Winslow exhausted the discussion of this question in his celebrated work "The Anatomy of Suicide," and then arrived at conclusions which the profession entirely adopted and the Legislature has since acted on. Dr. Winslow argued that the presumption should be, in the absence of clear evidence to the contrary, that no person with a mind altogether free from disorder, or an intellect in a normal condition of equilibrium, would, in opposition to one of the strongest instincts implanted in human nature,—viz., the principle of self-preservation,—voluntarily destroy himself. In all medico-legal inquiries, Dr. Winslow is of opinion that the unhappy suicide should have the benefit of the presumption of insanity, and particularly so if it can be established that he was apparently driven to the act by severe mental distress caused by remorse, domestic bereavement, loss of friends or of property. Cases do undoubtedly occur—and Dr. Winslow by no means ignores them—in which no appreciable trace of mental derangement can be detected previously to the fatal act of self-immolation. But even in these anomalous instances, he suggests whether the attempt upon life might not safely be viewed as the first overt act of a mind in a morbid state; in other words, a crisis of a pre-existing condition of obscure and undetected insanity. Apart from a strictly medico-legal view of the subject, Dr. Winslow asks whether this is not the charitable construction of the *vexata quæstio*. It is in practice the principle regulating the determinations of Coroners' Courts in all cases of suicide. This fact is clearly established by the extreme rarity in modern times of a verdict of *felo-de-se*. Twenty years have passed since Dr. Winslow, by his evidence on the trial of M'Naughten, caused the Judge to suggest to Sir Wm. Follett the abandonment of the criminal prosecution. Dr. Winslow's opinions, and the result of the case, led to a parliamentary discussion of the question of insanity, and the enunciation of the opinions of the fifteen Judges. It is of the first importance that the views of distinguished living authorities should neither be misquoted nor misunderstood. What Dr. Winslow's conclusion may be, should the Crown direct his examination of the prisoners under sentence of death, it is not for us to anticipate; but of one thing we are satisfied, that it will be based on purely medical and scientific grounds, and that no mistaken notions of pity will influence a judgment which can call to its aid all the resources of extraordinary experience.

CONTRIBUTION BY THE MEDICAL COUNCIL TOWARDS THE EXPENSES OF PROSECUTIONS.

WE are very happy to make known an act of wise liberality on the part of the Medical Council, by which they have presented a fine of £20, recovered under the Act, towards defraying the expenses of a prosecution under the 40th section.

Mr. C. P. Symonds, of Ormskirk, undertook the prosecution in August last, by the desire and with the support of the medical gentlemen of that neighbourhood, against a person named Josiah Archer Bowen, "for falsely pretending to be and using the name and title of a surgeon, and then and there giving a certificate of death, ... and writing under his name the letters 'Sub-M.R.C.S. Eng.,' implying thereby that he was recognised by law as a surgeon." The magistrates of Ormskirk inflicted on the defendant the full penalty of £20 and costs, which costs were taxed at £25. Notice was given of appeal to the Court of Queen's Bench, but the intention to appeal was presently abandoned.

This prosecution was under the important 40th section of the Act, which provides that "Any person who shall wilfully and falsely pretend to be or take or use the name or title of a physician, doctor of medicine, licentiate in medicine and surgery, bachelor of medicine, surgeon, general practitioner, or apothecary, or any name, title, addition, or description implying that he is registered under this Act, or that he is recognised by law as a physician or surgeon, or licentiate in medicine and

surgery, or a practitioner in medicine, or an apothecary, shall upon a summary conviction for any such offence pay a sum not exceeding £20." It is very satisfactory to record convictions under this section; and we are glad to be able to state, on authority, that the Medical Council are ready to devote any fines that may be received towards defraying the expenses of successful prosecutions. They decline to undertake the work; but they have the conscience not to pocket the proceeds, and thus they negatively assist the responsibility of the prosecutor, and testify their sympathy with proceedings which they can only approve and admire without imitating.

VACCINATION IN IRELAND.

IT is a peculiarity of some gentlemen who represent the interests of Ireland, that they systematically oppose every measure which can tend to promote its welfare by any internal improvement, or by aught else than contributions from the imperial exchequer. Legislation for Ireland is, indeed, commonly a thankless task, and every salutary measure of reform applicable to that country has to pass through a fiery ordeal in which it is commonly consumed. The measure for procuring registration of births and deaths in that country promises to rise from the ashes of repeated incremations. It seems almost doubtful whether the most necessary measure for vaccination which Sir Robert Peel has just introduced will yet escape the furnace. Sir Robert Peel very succinctly stated the case for his Bill in moving its second reading this week. He said it was intended to supply the defects of various other Bills which had been passed within the last thirteen years. Within the last few years there had been a great falling off in the number of children vaccinated in Ireland, and he proposed to assimilate the law in Ireland to that in England, employing for the purpose the machinery of the Registration of Births and Deaths Bill which had recently passed through the House. England was not the only country in which vaccination was compulsory, for in most countries in Europe there was a compulsory system. From the census returns he found that no fewer than 50,000 persons had died of small-pox in Ireland since 1841; and in 1860 there was a diminution of 33,000 in the number of vaccination cases as compared with those of the previous year. The cost of the proposed measure would be very trifling. The registrars of births and deaths would also act as registrars of vaccination. The Treasury would bear the expense of the books; but in cases in which the registrar himself was not the vaccinator he was to be allowed a fee of threepence for making the registry. Under an existing Act dispensing doctors were allowed about a shilling a head for each child they vaccinated. There were about 200,000 children born in Ireland each year; and it was calculated that of these, three-fourths, or 140,000, would receive gratuitous vaccination. The total expense imposed on each of the Poor-law unions by the Bill which he now proposed would be about £3 16s. 8d.—a mere trifle compared with the benefits which it would confer on the country.

Then the usual scene was acted. One Irish member thought the Bill ought to be postponed till the opinion of the people of Ireland on its provisions could be obtained by their representatives; another, that it would mischievously disturb the existing arrangements; another, that to attach a legal penalty to the neglect of vaccination would make that important operation exceedingly unpopular: and so, after an organized obstruction, in which elementary principles were unnecessarily drawn into the arena for discussion, the measure was shelved for the time. But it deserves to be borne in mind that the safety of the community in England is deeply compromised by the neglect of vaccination in Ireland. The numerous unvaccinated Irish immigrants scattered over this portion of the empire are constantly propagating small-pox amongst their neighbours. Vaccination for Ireland, then, is strictly a measure of imperial necessity. Equal justice demands that vaccination should be made compulsory throughout the British dominions.

THE MEDICAL PROFESSION IN AUSTRALIA.

THE Medical Act appears to be working well in Australia. New colonies are especially apt to be overrun by pretenders and quacks, and in stripping them of their false plumage the Act will be there usefully employed. We notice in the *Australian Medical Journal* two reports of cases in which it was enforced. The first touches the relations of the Medical Board to a homœopathic practitioner; and the following is a copy of the opinion given by the Crown law officers upon the application of Mr. Teague, a homœopathic practitioner of Geelong, to be admitted by that Board as a duly-qualified medical practitioner: "It is necessary that the person seeking to be registered should have passed through a regular course of medical study of not less than three years' duration, and that he should have received a diploma. I think if the applicant has given sufficient proof of his having passed through the necessary course of study the diploma is sufficient.—(Signed) R. D. Ireland." The Editor remarks: "It will be seen by the above that Mr. Ireland very properly declined interfering with the right of the Board to judge as to the sufficiency of the applicant's qualification. It was to be expected that strenuous efforts would be made by the holders of insufficient qualifications to claim the privilege of being registered under the Act. The case of Mr. Teague is no doubt only one of many which would have presented themselves if his claim had been admitted."

The second is a case of prosecution under the Medical Act. A Mr. John Clark, who had been practising as a surgeon under the name of Dr. Clark, and was the district coroner of Warrnambool, was on the 9th of January summoned before the local police bench, charged with using the title of a legally-qualified medical man without being duly registered by the Medical Board of Victoria. The offence was fully proved, and Dr. Clark was fined five guineas. He gave notice of appeal at the ensuing general sessions.

We regret to observe that there are still constant allusions to differences and ill-feeling amongst various members of the profession at Melbourne—a circumstance regarding which we trust soon to hear more favourable reports. There are great complaints, moreover, of the literary apathy of the members of the profession in the colony. Such contributions as have reached us from time to time have usually been of considerable interest; there is therefore the more reason to regret that the valuable materials which must exist in so large a working community should not be more generally utilised. The arrival of Professor Halford and the approaching completion of a medical school are sources of great congratulation. Dr. Halford is a physiologist and physician of great energy and ability, and is peculiarly well qualified to urge on the progress of the rising school. Here in the mother country we watch with interest the advance of affairs medical in the great colony, and are always happy to be able to report cheerfully on any evidence which is afforded of social and scientific improvement.

NEW ARMY MEDICAL WARRANT.

Circular No. 808 (*Relative Rank*).

(VICTORIA R.)

Whereas we have judged it expedient to cancel our Royal Warrant of 28th March, 1861, which assigns the relative rank of junior major to certain staff and regimental surgeons of our army, and to revise those parts of the several other Royal Warrants now in force, prescribing the privileges attaching to relative rank of officers of the Civil Departments and non-combatant officers of the Military Departments of our army; our will and pleasure is, that such privileges shall, from the date of this our Royal Warrant, be regulated as follows:—

Relative rank shall carry with it all precedence and advan-

tages attaching to the military rank with which it corresponds, and shall regulate the rates of lodging-money, number of servants, rations of fuel and light or allowances in their stead, detention and prize money according to the regulations and upon the conditions in force from time to time; but such relative rank shall not entitle the holder to military command of any kind whatsoever, nor to the presidency of courts-martial, courts of inquiry, committees, or boards of survey, but when the president of such courts, committees, or boards shall be junior to the officer of the Civil Department, then such member of the Civil Department shall attend as a witness, and not as a member. Choice of quarters shall be regulated by relative rank according to date of commission, except in the case of commanding officers' quarters, and in cases in which special quarters shall be permanently appropriated with the approval of the Secretary of State for War.

Relative rank shall not entitle the holder to salutes from ships or fortresses, nor to the turning out of guards, but it shall entitle him, if commissioned, to salutes by sentries or by individual soldiers.

Honorary rank of paymasters shall carry with it all the privileges and advantages attaching to relative rank of corresponding degree.

All commissioned officers serving with the troops shall be entitled to funeral honours according to relative military rank.

Given at our Court of St. James's, this 7th day of March, 1863, in the twenty-sixth year of our reign.

By Her Majesty's Command.

(Signed) G. C. LEWIS.

Correspondence.

"Audi alteram partem."

MR. ADAMS AND MR. PROPERT.

To the Editor of THE LANCET.

SIR,—In reference to the observations which have been made in your journal in several leading articles on the case of Russell *v.* Adams, and in which statements have been made with respect to the influence which has been exerted either directly or indirectly by Mr. Propert in promoting and carrying on the legal proceedings against myself, I think it only due to the profession, as well as myself, to say that I believe all the statements as to the facts of this case which have appeared in the articles alluded to, to be perfectly correct; and, indeed, it might well be assumed, from their remaining uncontradicted by Mr. Propert, that their truth is admitted.

When I first learnt, by a letter from Mr. Toynbee, as treasurer of the Medical Benevolent Fund, in December, 1861, that the Russells had again applied to the Medical Benevolent Fund or relief, and that their application was supported by Mr. Propert, I at once suspected that he had been, after myself, the next medical victim of these people. I wrote to Mr. Toynbee, giving an account of the Russells, so far as I was aware of their proceedings, and especially of their having obtained credit at the lodging-house by false representations in reference to myself. I concluded my letter by saying,—"I hope Mr. Propert has not been taken in by these Russells."

I thought it my next duty to give Mr. Propert the same information, and therefore enclosed him a copy of my letter to Mr. Toynbee, and wrote to him the letter dated 23rd of December, 1861, which has already appeared in your journal as the first letter in the Propert and Adams correspondence read at the meeting at the Freemasons' Tavern on the 24th of February. With respect to the subsequent letters, and the character of this correspondence generally, it is not for me to make any remark. Suffice it to say, that all the efforts made by myself and my solicitor utterly failed to induce Mr. Propert to listen to anything which could be said in answer to the false charges made against me by the Russells, and in the truth of which he appears from the first moment to have believed, on the unsupported testimony of this woman, Mrs. Russell.

About this period Mr. Propert had some interviews with Mr. Toynbee with reference to the Russells' application. Mr. Toynbee gave Mr. Propert the evidence which he, as treasurer of the Medical Benevolent Fund, possessed with respect to the Russells, based chiefly upon independent inquiries made by Dr. Kesteven, of Holloway, and in consequence of which the Committee of the Medical Benevolent Fund, in their twenty-sixth annual report for 1860-61 (see case 42), described Mrs. Russell as "believed to be a begging-letter writer, and deemed unworthy of further relief."

Mr. Toynbee's efforts to enlighten Mr. Propert as to the true character of the Russells were, like my own, fruitless; and Mr. Propert then made use of the expression to Mr. Toynbee, as stated by him at a meeting of the Committee of the Medical Benevolent Fund, that "*if it cost him £1000 the case should go before a jury.*"

A notice of action (not of such a character as to demand any serious consideration) was sent to me on the 25th July, 1861, by a Mr. Hill, who after a few months gave up the case. Then Mr. Johnson, of Doughty-street, took it up, and again notice of action was sent, with some appearance of earnestness. Now Mr. Propert appeared on the field. The case was to be tried at Kingston in March, 1862, but before trial Mrs. Russell became suddenly ill, and Mr. Propert gave a medical certificate to that effect. The trial was postponed, and when Miss Russell was taken for costs, Mr. Propert was sent for by the Russells, and he offered his cheque for the daughter, which was refused as not being a legal tender; but the money was paid in a few days. Nothing more was then heard of the case till Mr. Propert's solicitor took it up and gave notice of action.

Whether Mr. Propert did or did not pay, or intend to pay, the costs of the last action, matters but little, since it can be proved that, up to within a short period of this action, he identified himself with the legal proceedings against me.

It is considered by many that it would be more consistent if Mr. Propert did pay the costs of the final action, since this was brought by his own solicitor, Mr. Pike, who is also employed as the solicitor of the Medical Benevolent College.

I am, Sir, your obedient servant,

WM. ADAMS, F.R.C.S.

5, Henrietta-street, Cavendish-square, March, 1863.

P.S.—If any statement in this letter is in any respect inaccurate, it is open to correction by Mr. Propert.

DR. HUGHES BENNETT'S LECTURES.

To the Editor of THE LANCET.

SIR,—On the subject of vibriones, I beg to refer Dr. Hicks to a paper published by me in the *British Medical Journal* for February the 28th. It contains my reasons for believing that the molecules arranged in twos, threes, or a greater number, linearly, are not accidental, but indicate the mode in which the vibratile filaments are developed. That molecules aggregate and coalesce I regard as demonstrated; and if Dr. Hicks admits that cells in conjugation may meet together, why not molecules? It is not mere size, but structure, that determines what is a molecule or a cell; and if it can be shown that bodies which have never assumed such cell structure can produce filaments or membranes directly, then the universality of the cell theory is overthrown. Molecules found inside cells it is reasonable to conclude are more highly elaborated than such as are merely precipitated from organic fluids. They may, therefore, possess higher organizing properties, but will combine according to the molecular law of organization.

With regard to the contractility of the unimpregnated uterus, the passage referred to by Dr. Hicks in West's work proves nothing histologically. The uterus was morbid, and its muscular fibres had been hypertrophied, as occurs in pregnancy. All I say on this head, however, is that the contractility of the unimpregnated uterus—of the normal tissue—has not been established in physiology.

I am, Sir, your obedient servant,

Edinburgh, March, 1863. HUGHES BENNETT, M.D.

SPECIFICS.

To the Editor of THE LANCET.

SIR,—The subject of specifics was mooted in an annotation in THE LANCET of the 21st inst. Will you allow me to say a word relative to quinine? It has long been considered a specific for the ague, but I cannot think that such has been the case with those who have had much experience in the treatment

of the disease by this remedy. Whether or not there is such a thing as a specific for any disease whatsoever, is, I think, exceedingly doubtful, but most certainly quinine has no claim to be considered as a specific for the ague.

I am, Sir, your obedient servant,

MICHAEL W. FISHER, M.D.

Terrington St. Clement, March, 1863.

ON INFANTILE PARALYSIS.

To the Editor of THE LANCET.

SIR,—We have considerable experience at the Royal Orthopædic Hospital in the treatment of that remarkable disease termed "infantile paralysis." Out of every thousand consecutive cases, between sixty and seventy consist of deformities proceeding from this cause.

I trouble you with this communication because the results of observation in this institution differ from the generally expressed opinions, which have for the most part been somewhat thoughtlessly taken from the writings of Continental authors. In the first place, it is a very serious affection. Although many patients survive the first attack, and attain maturity, yet unquestionably very many die, either at the time of the seizure, when its real nature was scarcely understood, or at some later period, as has often happened in my own experience. I know of no case which could be said to arise without any lesion of the nervous system. In most cases the preceding convulsive attack is well marked; in all, the loss of motor power and the arrest of nutrition are immediate—perhaps contemporaneous.

We have not, I think, any clear evidence of the affection being due to congenital defect of conformation. Such defect may exist, but is not an essential feature of the disease. Many of the children are, in all other respects, well-formed and healthy. It attacks the sexes equally. Out of fourteen cases, there were seven male and seven female children. In twelve, the lower extremity was affected. The anterior muscles of the leg having suffered more than the posterior, the heel was raised, and the deformity called talipes equinus was produced. In one, the opposite condition prevailed, and the front of the foot was raised, causing talipes calcaneus. In one, the peronei and the muscles of the calf dragged the foot into the position of T. equino-valgus.

Out of the fourteen cases, the right limb was affected four times, the left five times, and both limbs five times.

The bones cease to grow just as far as the paralysis extends, and in proportion to the extent of the disease. If the loss of muscular power reach to the gluteal region, the corresponding side of the pelvis will be imperfectly developed—a fact of importance to the accoucheur. The arrest of development is considerable. In one patient, aged ten, the paralysed limb was two inches and a quarter shorter than the opposite.

The disease is not congenital, but usually comes on during the period of dentition. After a slight convulsion, all four limbs may be paralysed; but usually three recover—one only permanently struck by the disease. Cerebral complications are not uncommon, either at the time of the seizure, or afterwards. If the upper extremity becomes the seat of permanent paralysis, the deltoid muscle is chiefly affected, and the humerus drops from the socket; or the muscles of the upper arm are affected generally. The forearm usually, but not always, escapes.

Recovery is rare; but in some instances it is as sudden as unexpected. Tonics are rarely indicated. The chief medicine consists in purgatives, small doses of tartar emetic, continued for a period of many months, and in stimulating embrocations to the limb, that the circulation and vitality may be maintained. Parents, who are usually observant, often note the advantage of such treatment, and insist on persevering with it. The administration of nux vomica or the employment of galvanism has yielded no result. After all hope of recovery has passed, contracted tendons may be divided, and the foot may be put right; but the operation should not be hurried. I have known paralysis ensue at the period of second dentition.

I am, Sir, your obedient servant,

Queen Anne-street, March, 1863. HOLMES COOTE, F.R.C.S.

CAMBERWELL HOUSE LUNATIC ASYLUM.—An entertainment was recently given to the inmates of this asylum, consisting of a prologue, "Illustrations of wit and humour," readings from Dickens and various other authors, a concert, and Haynes Bayley's comedy "Perfection." The patients were highly delighted with the entertainment, and in the course of the evening were regaled with oranges, coffee, negus, and cake. Several visitors were present, including many members of the profession.

ARMY MEDICAL SCHOOL, FORT PITT.

THE following are the questions put to the candidates for assistant surgeoncies in the Army at the examinations held at the close of the winter session 1862–63:—

MILITARY MEDICINE—(PROF. MACLEAN.)

1. What do you understand by the term malaria? Describe the conditions under which it is generated, the forms of fever it produces, its influence on the fluids and solids of the human system, and the manner in which this poison modifies and alters the type, progress, and phenomena of tropical diseases generally.

2. Describe the symptoms in a case of uncomplicated remittent fever. Show where they differ from, and where they resemble, those of true yellow fever; the organs most prone to suffer in the course of the disease; the tendency to death; with a sketch of the leading principles of treatment, and mode of using the therapeutic agent most relied on in the cure of the disease.

3. Give a definition of dysentery, pointing out the various forms of the disease, and the circumstances which determine the development of each. Then describe the symptoms, pathology, and treatment, (*a*) of uncomplicated sthenic, and (*b*) of malignant dysentery of camps.

Practical examination.—Make an examination of the case of ——. (Twenty minutes are allowed for the examination. Written notes may be taken.) You are required to write concisely a history of the case; your diagnosis, prognosis, the probable effects of treatment, and the influence of the disease or injury on the man's fitness for service as a soldier. (Half an hour is allowed for this description.)

MILITARY SURGERY—(PROF. LONGMORE.)

1. Name concisely the characteristic features of the various kinds of wounds—punctured, incised, lacerated, and gunshot—caused by implements of warfare. Select any class of such injuries you choose, for the purpose of illustrating the manner in which the treatment proper in civil hospitals may have to be modified in field hospitals, owing to the circumstances in which troops are usually placed in campaigning. Also enumerate the chief consecutive accidents which have to be guarded against in field hospitals, where many wounded are placed together.

2. Name the symptoms of a perforating bullet-wound of a lung, and describe the natural process of cure in case of recovery. State whether similar symptoms may be presented by other injuries, and if so, name what those injuries are.

3. Name the eight books and registers which the medical regulations require to be kept at every regimental hospital by the medical officer in charge. Describe briefly the purpose of each book, and the regulated manner in which its entries are ordered to be recorded.

Practical examination.—The same as in Military Medicine, *mutatis mutandis*.

HYGIENE.—(PROF. PARKES.)

1. State precisely how, and to what extent, air is vitiated by respiration and cutaneous transpiration; what quantity of air is required by a healthy adult in a given time, and how this air can be best supplied.

2. What are the principal impurities of drinking-water, and what effects do they produce?

3. What are the weights of the accoutrements of the Infantry soldier, and what effects do ill-adjusted weights produce?

4. What are the chief diseases causing men to go into hospital on home service and in the three Mediterranean stations, and how may these diseases be prevented?

Practical examination.—First day: Examination of water and beer chemically. Examination of a mixture of starches microscopically.

Second day: Examination of milk and lemon-juice chemically. Examination of chicory microscopically.

PATHOLOGY.—(PROF. AITKEN.)

1. Describe in detail the method of opening a dead body for the purpose of making a post-mortem examination, and the methods, or incisions required, for removing all the viscera from their respective cavities in such a condition that their morbid states and relations may best be seen.

2. State the average height of "growing lads" at the age of eighteen, and of "men" at the age of twenty-five to thirty, as determined by accurate measurements.

3. Enumerate, by name, the bones of the human skeleton which are incomplete at the age of eighteen. Describe in how far they are incomplete or unfinished as to growth, and the events which take place to complete the skeleton between the ages of seventeen and twenty-five.

4. Explain the pathological meaning of the terms "venereal" and "syphilis."

5. Mention the points to be specially ascertained and recorded in the pathological observations and descriptions of syphilitic sores or ulcers.

Practical examination.—1. Describe the lesions which are shown by the preparations numbered respectively 1, 2, 3, 4, and 5.

2. Describe how the lesions in numbers 1, 2, 3, and 4, may have originated.

3. Examine microscopically the specimens of urine in the test-tubes before you, and state their microscopic contents.

4. Examine microscopically the material in the gallipots before you, and state what it is.

5. Determine the magnifying power of the combination of lenses in the large microscope.

Parliamentary Intelligence.

HOUSE OF LORDS.

MARCH 24TH, 1863.

BIRTHS AND DEATHS REGISTRATION (IRELAND) BILL.

The MARQUIS of CLANRICARDE, before their Lordships went into committee on this Bill, wished to present petitions from the Poor-law Guardians of the Unions of Limerick and South Dublin, praying that the expense of carrying the Act into effect might be defrayed out of the Consolidated Fund, and not out of local rates, and that the Guardians be allowed to appoint the registrars. He had also a petition to present from the King and Queen's College of Physicians, objecting to the appointment by Boards of Guardians of officers to be called superintendent registrars, to be placed over the medical men who were to discharge the functions of registrars. He believed that the Bill would be utterly inadequate for scientific purposes. In cases where medical men refused to act, the Guardians were to appoint whom they pleased as registrars, whether they had the necessary scientific acquirements or not. Returns were to be made quarterly, but they would be useless in a sanitary point of view. It was idle to suppose that the operation of this Bill would furnish reliable sanitary information. It would be better to expunge that portion of the measure altogether, and introduce it as a separate Act.

The Earl of BANDON believed that, in the absence of the great majority of the Irish representative Peers, as well as from regard to the importance of the subject, it would be desirable to postpone the consideration of the Bill till after Easter. His experience of twenty years as chairman of a Board of Guardians led him to believe that it was most unwise to mix up any other expenditure with that incurred in the relief of the poor. A great change in fiscal matters was proposed to be introduced by this Bill, which ought only to be introduced, if at all, with great deliberation. He, moreover, entertained the opinion that the Government would have acted much more wisely in endeavouring to settle the questions affecting the registration of marriages at the same time with those connected with the registration of births and deaths. (Hear, hear.) Legislation was proposed on that part of the subject which had not been considered by the Select Committee of the House of Commons, and that portion which had most fully engaged their attention was not touched by this measure at all.

The Earl of LEITRIM commented upon the details of the measure, some of which he thought were capable of improvement.

Their Lordships then went into committee.

Clauses up to 21 inclusive were agreed to, with amendments.

The Marquis of CLANRICARDE moved an amendment in clause 22, altering the title to be given to clerks of Unions from "superintendent registrars" to "superintendents of registers."

The Earl of ST. GERMANS opposed the amendment.

After a short conversation their Lordships divided, when the numbers were:—Contents, 32; Non-contents, 5—Majority against the amendment, 27. The clause was then agreed to, as were also the remaining clauses of the Bill.

Medical News.

APOTHECARIES' HALL.—The following gentlemen passed their examination in the Science and Practice of Medicine, and received certificates to practise, on the 19th inst.:—

Allfrey, Charles Henry, Stamford-hill.
Averill, Alfred, Broadway, Worcestershire.
Caudle, Charles Edward, Henfield, Sussex.
Holden, George Herbert, Presteign, Radnorshire.
Rumboll, Walter, Ramsbury, Wiltshire.

A LUNATIC ASYLUM is about to be erected at Haddington, with accommodation for seventy inmates.

NEW INFIRMARY AT LEEDS.—Tenders are invited for the erection of a general infirmary at Leeds.

STATUE OF JOHN HUNTER.—Mr. Weekes is preparing a statue of Hunter for the Hunterian Museum of the College of Surgeons. It is seated, and larger than life.

CHOLERA IN MEXICO.—By the most recent advices we learn that cholera and typhus fever are very prevalent at Puebla.

ROTHERHAM SANITARY WORKS.—The total cost of the works connected with the Rotherham Sanitary Commission is estimated at £37,000.

SOUTH STAFFORDSHIRE GENERAL HOSPITAL, WOLVERHAMPTON.—The election of a physician in the room of Dr. Wollaston has been postponed for three months.

DR. PRIESTLEY.—We regret to state that Dr. Priestley is suffering under a severe attack of diphtheria. The disorder was understood to have been contracted while he was attending some children suffering under this malady.

SMALL-POX AT WASHINGTON.—Small-pox is making fearful havoc among the numerous "contrabands" at Washington, and thence extending its ravages among the white population.

INCREASE OF SMALL-POX IN THE METROPOLIS.—Forty-five cases of death from small-pox occurred in the metropolis last week. It is not stated whether the victims had been vaccinated or not.

CAMBRIDGE.—A medical exhibition is vacant at Caius College, in consequence of the unexpected retirement of a gentleman elected about six months ago. The appointment is worth £100 per annum, with rooms, to be held for seven years. Candidates must be under twenty-one, and publicly examined.

COCA.—Dr. Mantegazza, of Milan, has recently experimented on the coca plant, by taking at first a drachm of the leaves, and then at intervals increased doses up to sixteen drachms in one day, when his pulse rose to 134 beats in a minute, and a kind of intoxication supervened. This was accompanied by headache and vertigo.

TUMOURS ON A COW.—A cow, the property of the Rev. F. L. Prior, Lynby, died a few days ago, and on a post-mortem examination being made by Mr. Reynolds, veterinary surgeon, of Mansfield, three enormous tumours were found to exist in the abdomen, weighing collectively more than twenty-one stone.

NORTH STAFFORDSHIRE INFIRMARY.—In consequence of the abandonment of the proposed new building, great disappointment has been caused to the forty architects who sent in their plans. It is decided, however, in order to enable the Committee to award the prize of £100 for the best design, that a sub-Committee be appointed for the purpose. The whole of the plans are to be publicly exhibited.

H.R.H. PRINCE ALFRED.—Considerable surprise has been expressed amongst naval medical men, and indeed the profession generally, at the omission of the names, in the late bulletins, of the medical men in attendance on his Royal Highness when in Malta Hospital, suffering, it has been stated, with a severe attack of typhus fever. We have authority for stating that the Prince has never been in such imminent danger. Dr. Thomas Bishop, of Naples, was sent for to meet Dr. Armstrong on board the St. George, who pronounced it an ordinary case of fever.

PROPOSED CONVALESCENT INSTITUTION AT BIRMINGHAM.—At a Quarterly Board meeting of the General Hospital, held on Friday last, Mr. Arthur Ryland laid before the meeting a proposition from Miss Ryland, of Barford-hill, which "proposed to alter for a convalescent institution the High

House, Spark-hill, so as to render it suitable for the reception of eighteen male patients; to furnish the house; to devote it for a period of two years to the reception of convalescent patients; to give a sum not exceeding £250 per annum, in order to pay the wages and expenses of the necessary staff of servants; to allow, with the house, a kitchen garden." The sub-Committee, who had previously been appointed to examine the building, reported favourably, and that the building would accommodate twenty patients, which was agreed to. The Committee expressed their high admiration of the noble conduct of Miss Ryland by a unanimous vote of thanks.

ROYAL COLLEGE OF SURGEONS.—It may save disappointment to many of the gentlemen attending Professor Huxley's lectures at the College to know that he will bring his very interesting course to a close on Monday next instead of the following day, on which occasion he will give a *resumé* of the theories of the vertebrate skeleton. Owing to the great number of candidates about to offer themselves for the examinations for the membership of the College, and which commences on the 4th proximo, it is expected that Professor Gulliver will not be able to resume his portion of the lectures before the middle of June, on which occasion he will deliver six lectures, in continuation of his former course, on the Blood, Chyle, and Lymph, to be followed by Professor Solly, who will also deliver six lectures, on the Brain and its Diseases.

THE HUNTERIAN MUSEUM.—This collection has been enriched with a magnificent series of preparations illustrating the pathology of the human eye, nearly 200 in number, and about 400 microscopic slides prepared from the same specimens. The whole have been made with consummate ability by Dr. C. Bader, of the Royal London Ophthalmic Hospital, and a former assistant in the Museum of the Royal College of Surgeons. The preparations are accompanied with a description of the appearances at present exhibited by the specimen, with a history of the case, and a general and microscopic description of the morbid appearances presented by the eye when recent. Such another collection does not exist at home or abroad, and great credit is due to the Council of the College for securing it for their museum.

EXTRAORDINARY DEATH.—A warder of the bagne at Toulon has just met his death in the following manner:—He was amusing himself while off duty with fishing in the dock, when having caught a fish about seven inches long and two broad, and not knowing where to place it while baiting his hook, conceived the idea of holding it between his teeth. The fish, struggling in the convulsions of death, ended by slipping its head first into its captor's mouth, and thence, owing to the viscous matter with which the scales were covered, down his throat, completely filling up the cavity. The man rushed about for aid, but soon dropped dead from suffocation.

HOWEL MORGAN, ESQ., F.R.C.S.—At the opening of the Assizes recently, Sir G. W. W. Bramwell, one of the Barons of her Majesty's Court of Exchequer, was escorted into the town of Bala by the High Sheriff of Merionethshire, Howel Morgan, Esq., accompanied by his chaplain, and attended by an imposing escort of javelin-men, headed by trumpeters, who were furnished with elegant silver trumpets of very ancient and rare order, and decorated with silk banners bearing the coat of arms of the high sheriff.—*Carnarvon Herald.*

MEDICAL PORTRAIT.—An excellent portrait of Dr. Edwin Lankester, F.R.S., the Coroner for Central Middlesex, has been published by Mr. E. B. Black, 392, Strand. The moment of speaking appears to have been selected by the artist, and the portrait possesses great fire and animation, while the features present an excellent similitude of the orator. The many friends, pupils, and admirers of Dr. Lankester will be gratified with this opportunity of acquiring a portrait of their friend and teacher.

EXTRAORDINARY LONGEVITY.—The obituary of "The Times" has lately, and for several consecutive days, presented some remarkable instances of longevity. On the 25th inst., the deaths of three ladies, and the same number of gentlemen, are recorded, whose united ages amounted to five hundred and eighteen years, or an average of eighty-six years and four months for each individual. The eldest was a female aged ninety years, and the youngest a man aged seventy-nine.

TESTIMONIAL.—Dr. Samuel Fenwick, being on the eve of leaving the parish of Tynemouth, where he has practised for many years, the local clergy were desirous of marking their high esteem for his character as a man, and his skill as a physician. They have, therefore, united in presenting him with a very handsomely-bound Bible, in which was inserted the following inscription, written on vellum:—

"Presented to Samuel Fenwick, Esq., M.D., on the occasion of his leaving North Shields, by the undersigned clergymen, as a mark of their grateful acknowledgment of his professional services, and of their high esteem for his Christian character."

(Signed by five of the resident clergy of Tynemouth parish.)

THE LATE DR. GEORGE PHILLIPS.—We regret to announce the death of George Phillips, Esq., F.R.C.S., which event occurred with melancholy suddenness at his residence in Market-street, Haverfordwest, shortly after eight o'clock on the 19th inst. The deceased gentleman arose at his usual hour, but feeling unwell he retired to bed. His illness increasing, he gave instructions that some of his medical brethren should be sent for, but before their arrival he had breathed his last. The immediate cause of death is stated to be an affection of the heart. Mr. Phillips was universally respected, was a magistrate of the borough, and churchwarden of the parish of St. Mary—positions which his love of justice and exemplary piety eminently qualified him to occupy. He was also Medical Officer of the Haverfordwest Union and District. Besides being medical examiner for various insurance and other public companies, he enjoyed a large and lucrative practice, which extended throughout the county, with many of the leading families of which he was connected by ties of relationship.

GERMAN HOSPITAL, DALSTON.—A special general court of the governors of this institution was held on the 19th inst., at the London Tavern, Bishopsgate-street, for the purpose of receiving plans for the erection of a new hospital, and deciding upon the adoption of them. The proceedings were presided over by the Duke of Cambridge. Mr. Meinertzhagen, the chairman of the Building Committee, said they had fulfilled the conditions of Mr. Huth's engagement to contribute £2000 towards the fund, under certain conditions, and the amount now in hand was £7500. The choice of the architect had been left to Mr. Huth, who had fixed upon Professor Donaldson, according to whose plan the cost of the new building would be £10,000, and it would accommodate seventy patients.

STATISTICAL SOCIETY.—On Saturday, the 14th inst., at the twenty-ninth annual meeting, Sir John Pakington, Bart., in the chair, the following gentlemen were elected Council and Officers for 1863-4:—President: Colonel Sykes.—Council: Mr. C. Babbage, Dr. James Bird, Sir John Boileau, Mr. Swinton Boult, Mr. Samuel Brown, Dr. Camps, Dr. William Farr, Right Hon. Earl Fortescue, Mr. H. W. Freeland, M.P., Sir Francis Henry Goldsmid, Bart., M.P., Dr. W. A. Guy, Mr. Hammick, Mr. F. Hendriks, Mr. James Heywood, Sir Rowland Hill, Mr. W. B. Hodge, Mr. C. Jellicoe, Mr. Leone Levi, Mr. W. G. Lumley, Right Hon. Holt Mackenzie, Mr. Matthew Henry Marsh, M.P., Right Hon. Lord Monteagle, Mr. William Newmarch, Right Hon. Sir John S. Pakington, Bart., Mr. Frederick Purdy, Right Hon. Lord Stanley, Col. W. H. Sykes, M.P., Major-General Sir A. M. Tulloch, Mr. Richard Valpy, Mr. Cornelius Walford, and the Rev. William Whewell.—Treasurer: Dr. Farr.—Honorary Secretaries: Dr. Guy, Mr. Lumley, and Mr. Frederick Purdy.

HEALTH OF LONDON DURING THE WEEK ENDING SATURDAY, MARCH 21ST.—The mortality in London was high in the second week of the current month; it rose still higher in the third week (that ended last Saturday), when the deaths numbered 1624. The return of the previous week exhibited an increase in the deaths of young persons (under 20 years), and also of the old (sixty years and upwards). The return of last week shows no further increase in the deaths of the young, but a further increase of considerable amount in the deaths of the old. In the last three weeks the deaths of young persons were 702, 806, 793; those of the old were 275, 305, and 351. The increase has arisen chiefly from pulmonary complaints. The deaths at all ages from phthisis were, in the three weeks, 149, 191, and 180; those from bronchitis 144, 170, 204; those from pneumonia 88, 114, 102; those from heart disease 56, 50, and 72. The deaths from pulmonary complaints last week were 366, against a corrected average of 315. There were 45 deaths from small-pox.

The births were—boys, 1129; girls, 1102.

MEDICAL VACANCIES.

Chelsea, Brompton, and Belgrave Dispensary—Physician and Surgeon.
Cumberland and Westmoreland Lunatic Asylum—Medical Superintendent.
Middlesex County Lunatic Asylum—Assistant Medical Officer.
Nottingham General Hospital—Assistant House-Surgeon.

MEDICAL APPOINTMENTS.

C. ARMSTRONG, M.D., has been elected Secretary for 1863-64 of the County and City of Cork Medical Protective Association.

E. D. BATE, M.R.C.S.E., has been elected Coroner for the County of Monmouth, vice Mr. T. Hughes, deceased.

J. S. BELCHER, M.D., has been appointed Medical Officer to the Workhouse and South District of the St. George's-in-the-East Union.

J. BIRD, M.D., has been elected one of the Council of the Statistical Society for 1863-64.

W. BLASSON, M.R.C.S.E., has been appointed Medical Officer and Public Vaccinator for the Edgware District of the Hendon Union, vice Edm. Shaw, M.D., resigned.

J. WOODRUFFE BROWN, M.R.C.S.E., has been appointed Medical Officer and Public Vaccinator for the Wymeswold District of the Loughborough Union, Leicestershire, vice B. Webster Brown, M.R.C.S.E., deceased.

W. CAMPS, M.D., has been elected one of the Council of the Statistical Society for 1863-64.

R. CORBETT, L.M. T.C.D., has been elected Vice-President for 1863-64 of the County and City of Cork Medical Protective Association.

JAS. COXE, M.D., Commissioner in Lunacy for Scotland, has been elected a Member for the Scottish Meteorological Society.

A. F. A. FAIRWEATHER, M.B., has been appointed Medical Officer for the Parish of Kirkowan, Wigtonshire.

WM. FARR, M.D., has been elected one of the Council and Treasurer of the Statistical Society for 1863-64.

F. GOODCHILD, M.D., has been elected Physician to the Warwick Dispensary, vice S. J. Jeaffreson, M.B., resigned.

W. A. GUY, M.B., has been elected one of the Council and one of the joint Honorary Secretaries of the Statistical Society for 1863-64.

GWYNNE HARRIES, M.R.C.S.E., has been appointed Physician-Accoucheur's Assistant at King's College Hospital, vice R. Meadows, M.D., who has received a commission as an Assistant-Surgeon in the Anglo-Chinese Squadron.

J. R. HARVEY, M.D., has been elected President for 1863-64 of the County and City of Cork Medical Protective Association.

EDW. HEAD, M.D., Medical Associate of King's College, has been appointed Physician to the St. Pancras and Northern Dispensary, Euston-road, vice G. Harley, M.D., resigned.

T. HOLMESTED, M.R.C.S.E., of Guy's Hospital, has been appointed Resident Medical Officer to the Dispensary, Newport, Monmouthshire, vice Geo. Mayou, M.D., resigned.

F. H. KEMPSTER, M.B., has been appointed a Resident Surgeon to the Melbourne Hospital, Australia.

W. P. KIRKMAN, M.D., Resident Physician and Superintendent of the Cumberland and Westmoreland Lunatic Asylum, Garlands, Carlisle, has been appointed Medical Officer and Superintendent of the Kent County Lunatic Asylum, Barming-heath, near Maidstone, vice J. E. Huxley, M.D., resigned.

R. W. LEDWARD, M.D., has been elected Medical Officer for the St. Michael's District of the Township of Manchester, vice Evan Thomas, M.R.C.S.E., resigned.

F. LITTLE, M.R.C.S.E., has been appointed House-Surgeon to the Loughborough Dispensary, vice Mr. Morris, resigned.

J. LORIMER, M.D., has been elected Medical Officer for the Cathedral District and Public Vaccinator for the Market-street Vaccination District of the Township of Manchester, vice J. O. Fletcher, M.D., resigned.

J. MEDD, M.D., has been elected Medical Officer for the St. Jude's District of the Township of Manchester, vice C. Smith Bompas, M.R.C.S.E., resigned.

R. METCALFE, M.R.C.S.E., has been appointed, in lieu of Mr. J. W. H. Mackenzie, Medical Officer and Public Vaccinator for the Checkley District of the Cheadle Union, Staffordshire, vice J. Ritchie, L.R.C.S.Ed., deceased.

D. B. O'FLYNN, M.D., has been elected Treasurer for 1863-64 of the Cork Medical Protective Association.

J. W. JEFFERYS OSWALD, L.F.P.S. Glas., has been elected Medical Officer and Public Vaccinator for the Union Workhouse and Rochford District of the Rochford Union, Essex, vice R. Hodges, M.D., resigned.

Dr. PARTRIDGE has been elected a Vice-President of the Bengal Photographic Society.

D. ROSS, M.D., has been elected Resident Medical Officer to the South Shields and Westoe Dispensary, vice H. Hume, M.D., resigned.

C. SWABY SMITH, M.R.C.S.E., has been appointed Surgeon to the Marlborough Railway Works.

Dr. LYNCH THOMAS has been appointed Assistant Resident Surgeon to the Public Hospital of Demerara and Essequibo.

MURRAY THOMSON, M.D., Lecturer on Chemistry at the Edinburgh Medical School, has been elected a Member of the Scottish Meteorological Society.

J. WELCH, M.D., has been elected Medical Officer for the Eastern District of the Strand Union, vice S. Lovett, M.R.C.S.E., deceased.

MILITARY AND NAVAL MEDICAL APPOINTMENTS.

J. ANDREWS, Staff Surg. R.N. Nov. 23rd, 1841, has been promoted to Deputy Inspector-General of Hospitals and Fleets on the Retired List.

S. G. BOUSFIELD, M.R.C.S.E., Assist.-Surg. Indian Service, has been promoted to Surgeon, vice Surg.-Major R. C. Guise, retired.

H. C. BOWSER, M.R.C.S.E., Bengal Service, has been appointed to officiate as Medical Officer of Bancoorah.

NORMAN CHEVERS, M.D., Assist.-Surg. Indian Service, has been promoted to Surgeon, vice Surg.-Major W. Crozier, deceased.

G. CLERIHEW, M.D., Deputy Inspector-General of Hospitals Army, has been promoted to the honorary rank of Inspector-General of Hospitals on retiring upon half-pay.

J. COCKBURN, Surg.-Major 1st Regt. of Life Guards, has been promoted to the honorary rank of Deputy Inspector-General of Hospitals on retiring upon half-pay.

W. CREAGH, Assist.-Surg. Bengal Service, in medical charge of H Battery 14th Brigade Royal Artillery, has been directed to afford medical aid to No. 6 Battery 25th Brigade also till further orders.

A. C. CANTROIT DE RENZY, M.R.C.S.E., Assist.-Surg. 29th Native Infantry Bengal Service, has been appointed to the charge of the Civil Station of Mooltan, in addition to his military duties.

Assist.-Surg. DAVIES, Bombay Service, has been appointed on special duty in North Canara from the date on which he proceeded to that district.

J. R. A. DOUGLAS, M.R.C.S.E., has been appointed Assist.-Surg. to the 4th or Royal South Middlesex Militia, vice Adolphus, resigned.

J. FORBES, L.R.C.P., Deputy Inspector-General of Hospitals (Acting Inspector-General) Madras Service, has retired on the pension of £300 per annum.

H. E. FOX, M.D., Bengal Service, has been appointed to officiate as Medical Officer of Rajshahye.

H. GIRAUD, M.D., Surg. Bombay Service, has been promoted to Surg.-Major.

E. GRAY, M.B., Assist.-Surg. Bengal Service, has been appointed Civil Surgeon at Goojranwalla.

Assist.-Surg. PATTERSON, M.D., Royal Artillery Indian Service, doing duty at Meerut, has been directed to take medical charge of D Battery 11th Brigade Royal Artillery at Lucknow.

R. K. PENDERGAST, L.R.C.S.I., Staff Surg.-Major Army, has been promoted to Deputy Inspector-General of Hospitals, vice G. Clerihew, M.D., who retires upon half-pay.

E. B. THRING, M.D., 3rd Native Infantry, Bengal, has been appointed to the temporary medical charge of the Civil Station of Seetapore, in addition to his regimental duties.

J. C. TRESTRAIL, Surg. Bombay Service, has been promoted to Surg.-Major.

E. F. WHEATLY, Assist.-Surg. Bombay Service, has been directed to assume the medical charge of the 8th Native Infantry at Neemuch, vice Assist.-Surg. Pinkerton.

Births, Marriages, and Deaths.

BIRTHS.

On the 7th of Jan., at Belgaum, Bombay Presidency, the wife of Assist.-Surg. J. Mennie, of the Royal Artillery, of a daughter.

On the 7th of Jan., at Emerald-hill, Victoria, Australia, the wife of W. Haig, M.D., of a daughter.

On the 18th ult., at Arcot, the wife of Assist.-Apothecary J. Chadwicke, H.M.'s 41st Native Infantry, Madras, of a son.

On the 22nd ult., at Maligaum, East Indies, the wife of C. Sylvester, M.D., of a daughter.

On the 8th inst., at Winton-terrace, Rathgar, the wife of Dr. R. Pearse White, of a daughter.

On the 13th inst., at North-street, Elgin, the wife of J. W. Norris Mackay, M.D., of a daughter.

On the 15th inst., at Cullompton, Devon, the wife of Wm. Gribble, M.R.C.S.E., of a daughter.

On the 15th inst., at Sylvan Cottage, Kingskettle, Fifeshire, the wife of J. M. Bell, M.D., of a son.

On the 16th inst., at Maidenhead, the wife of A. Playne, M.B., of a daughter.

On the 19th inst., at Springfield, Neston, Cheshire, the wife of J. Braid, M.D., of a daughter.

On the 21st inst., at City-road, the wife of Edmund Lloyd, M.R.C.S.E., formerly of Wakefield, of a son.

On the 21st inst., at Chudleigh, Devonshire, the wife of Graham Atherley Carter, M.D., of a daughter.

On the 21st inst., at Spalding, the wife of H. Tournay Stiles, M.D., of a son.

On the 22nd inst., at Rutland-place, Edinburgh, the wife of Norman Bethune, M.D., of a daughter.

On the 23rd inst., at Hamilton-terrace, St. John's-wood, Margaret, widow of the late J. Harrison, M.D., of the Bengal Medical Service, of a daughter.

MARRIAGES.

On the 14th inst., at Kingstown, H. Haswell Head, M.D., of Lower Fitzwilliam-street, Dublin, to Harriette Annette Catherine, daughter of the Viscountess Bangor and A. Nugent, Esq.

On the 19th inst., at Laurel-bank, Broughty-ferry, Dundee, J. Hall Park, M.D., to Eliza Proctor, daughter of the late J. Smith, Esq., of Hayston.

On the 21st inst., at Liverpool, T. W. Serjeant, Surgeon, to Miss Fanny Gray, daughter of the late J. Gray, Esq., of Liverpool.

On the 24th inst., at Warblington, F. Walter, Surgeon, of Portsea, son of the late H. G. Way, Esq., of Portsmouth and East Cosham Cottage, to Ann Ives, daughter of E. Ives Palmer, Esq., of Wade-court Manor, Warblington, Hants.

DEATHS.

On the 19th of Dec., at Christchurch, Province of Canterbury, New Zealand, P. Brown Hilson, Surgeon, son of the late G. Hilson, M.D., of Jesburgh.

On the 23rd of Dec., Benjamin Webster Brown, M.R.C.S.E., of Wymeswold, Leicestershire.

On the 12th inst., at Crawford-street, Mr. Augustus Meacher, second son of E. A. Meacher, Esq., of St. Margaret's, near Hemel Hempstead, Herts, aged 31.

On the 16th inst., at Elmbank, Lasswade, near Edinburgh, Dr. Rich. Smith, aged 68.

On the 17th inst., at Dalswinton, near Dumfries, Theodore Edgar, L.F.P.S. Glas., late of Birkenhead.

On the 17th inst., at Monmouth, J. Mayou, M.R.C.S.E., aged 67.

On the 18th inst., at Hammersmith, R. Hollier, M.R.C.S.E., late of the 37th Regiment, aged 72.

On the 19th inst., G. Phillips, F.R.C.S.E., of Haverfordwest.

On the 20th inst., at Lilf, Forfarshire, D. R. Maclean, Student of Medicine, aged 23.

On the 21st inst., at Lichfield, T. Bowley, M.D., aged 73. He had been Mayor of the City three times, and was the first Mayor returned after the passing of the Municipal Corporation Reform Act. He was also a Deputy Lieutenant and Justice of the Peace for Staffordshire, and Justice of the Peace for the City of Lichfield.

On the 23rd inst., R. Baron Treffry, M.D., of Union-street, Kennington, aged 31.

On the 24th inst., at Bath-place, Wellington-square, Ayr, W. Hutcheson, M.D.

BOOKS ETC. RECEIVED.

Dr. Tilt on Uterine Therapeutics.
Dr. Storer's Studies of Abortion.
La Foudre Filature de Coton de M. Pouyer-Quertier.
Dr. Tanner on Cancer of the Female Sexual Organs.
Dr. Robertson on the Calabar Bean as a new Ophthalmic Agent.
Mr. Fownes's Manual of Elementary Chemistry.

Medical Diary of the Week.

MONDAY, MARCH 30 ...	LOCK HOSPITAL, Dean-street, Soho.—Clinical Demonstrations and Operations, 1 P.M. ST. MARK'S HOSPITAL FOR FISTULA AND OTHER DISEASES OF THE RECTUM.—Operations, 1½ P.M. METROPOLITAN FREE HOSPITAL. — Operations, 2 P.M. ROYAL COLLEGE OF SURGEONS OF ENGLAND.—4 P.M. Prof. Huxley, "On the Structure and Development of the Vertebrate Skeleton." CHEMICAL SOCIETY.—8 P.M. Anniversary. MEDICAL SOCIETY OF LONDON.—8½ P.M. Clinical Meeting.—Dr. Palfrey, "On Obstructive Dysmenorrhœa treated by Incision of the Cervix Uteri;" and other communications.
TUESDAY, MARCH 31...	GUY'S HOSPITAL.—Operations, 1½ P.M. WESTMINSTER HOSPITAL.—Operations, 2 P.M.
WEDNESDAY, APRIL 1	MIDDLESEX HOSPITAL.—Operations, 1 P.M. ST. MARY'S HOSPITAL.—Operations, 1 P.M. UNIVERSITY COLLEGE HOSPITAL. — Operations, 2 P.M. OBSTETRICAL SOCIETY OF LONDON. — 8 P.M. Dr. Swayne (Bristol), "On a Case of Cæsarean Section." Other papers by Dr. Skinner (Liverpool), Dr. Tyler Smith, Dr. Eastlake, Dr. Gervis, &c.
THURSDAY, APRIL 2...	ST. GEORGE'S HOSPITAL.—Operations, 1 P.M. CENTRAL LONDON OPHTHALMIC HOSPITAL. — Operations, 1 P.M. LONDON HOSPITAL.—Operations, 1½ P.M. ROYAL FREE HOSPITAL.—Operations, 1½ P.M. GREAT NORTHERN HOSPITAL, KING'S CROSS.—Operations, 2 P.M. LONDON SURGICAL HOME.—Operations, 2 P.M. WEST LONDON HOSPITAL.—Operations, 2 P.M. ROYAL ORTHOPÆDIC HOSPITAL. — Operations, 2 P.M. HARVEIAN SOCIETY. — 8 P.M. Dr. Pollock, "On Pneumothorax."
FRIDAY, APRIL 3.....	WESTMINSTER OPHTHALMIC HOSPITAL. — Operations, 1½ P.M.
SATURDAY, APRIL 4 ...	ST. THOMAS'S HOSPITAL.—Operations, 1 P.M. ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1½ P.M. KING'S COLLEGE HOSPITAL.—Operations, 1½ P.M. CHARING-CROSS HOSPITAL.—Operations, 2 P.M.

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THE LANCET *may be obtained from every respectable Bookseller or Newsman in the World.*

To Correspondents.

THREATENED ACTION FOR TREATMENT OF UNUNITED FRACTURE.

Q.—The claim set up is one of the most monstrous that we have ever heard. There is not the least ground for alleging want of skill in the treatment of the case. Ununited fractures are among the most difficult cases which can tax the science and skill of the surgeon, and not unfrequently repeated efforts have been made without success to remedy that condition. The sawing off the ends of the bone is one of the most useful and approved methods of treatment. The breaking of the chain-saw and its consequences were accidental. The result seems to have been good, inasmuch as we understand that the patient was so fortunate as to obtain consolidation. Such threatened actions are not unfrequently fostered by the ignorance and ill-will of bone-setters. They deserve to be treated with indignant contempt. It is grievous that the skilled care of an able surgeon should be requited with such perverse ingratitude.

Mr. W. Ferguson, (Bridlington.)—The name was in the list sent to us by the authorities of the College.

Mr. Alfred Sheen.—On making official inquiry, we are emphatically told "*No.*"

C. P. M.—A graduate in Medicine of the University of Aberdeen is entitled to prefix "Dr." to his name. It is not essential for him to belong to a College of Physicians to enable him to assume the title. If our correspondent had attended to the controversy which has lately occupied our pages with regard to the assumption of titles, he would not have deemed it necessary to put the question.

Pathologus.—Recurrent fibroid tumours have been thought to degenerate into true cancerous growths in some cases.

One Puzzled.—Yes; in London, water added to milk is justly considered an adulteration; but at a recent trial in New York, a milkman's counsel maintained that milk was not adulterated by the addition of water. The Court decided in conformity with his opinion, and this retailer of "pure country milk" returned, says the paper from which we quote, "to his occupation, well satisfied with the licence which he now has to impose upon his customers."

A CASE OF ACEPHALOUS MONSTROSITY.

To the Editor of THE LANCET.

SIR,—In your impression of December 13th, 1862, there are recorded two cases of "Encephalon Monsters," occurring in the practice of Mr. Hadaway in the same week. On the 23rd of the same month a similar case occurred to me.

I was engaged to attend Mrs. L—— in her sixth confinement, for the second or third week in November, she having ceased to menstruate on February 16th. Labour did not come on till December 23rd, exactly one calendar month after the full period of 280 days, which expired on November 23rd. I was summoned at eight P.M. Pains had been regular and strong for five hours. On examination, the os uteri was fully dilated; the membranes had given way an hour previously, and a large quantity of liquor amnii discharged. I was at first puzzled what was coming. The face presented, and I could feel an ear; but where the vault of the cranium should be, only a soft mass could be felt, which bled on being touched. The rudimentary head passed with some difficulty by the natural efforts; but the body was of very large size, and did not seem inclined to follow; so I grasped the base of the skull with my right hand, and well supporting the perineum with my left, my left elbow being planted firmly against my left thigh, and keeping up steady extracting force, I succeeded in bringing the fœtus through the outlet at half-past ten P.M. Life was quite extinct. The patient suffered very severely, but the perineum was not lacerated.

The engravings given in Mr. Hadaway's paper give a good idea of this case as to shape; but the features were natural, though coarse and ugly. There was entire absence of the parietal bones, of the occipital, and of the frontal (at least all above its orbital plates); and two or three nodules of brain, each about the size of a walnut, quite uncovered by scalp, protruded, from which very dark blood was oozing. The circumference of the base of the skull was twelve inches; of the body, fourteen inches and a half; of the shoulders, twenty inches; of the arms, five inches and a half; of the thighs, seven inches and a half; the length was twenty-three inches; and the weight, nine pounds and a quarter. I was surprized that the weight was not more. It was not weighed till the next day, when some ounces of blood had oozed away, and when we call to mind how much the fœtal head naturally weighs, nine pounds and a quarter almost without a head, and the above measurements, show the great dimensions of the body. The penis was quite rudimentary, and there were no testicles in the scrotum.

The only circumstance the mother could give in explanation was that one day, when stooping down suddenly to the fender, she "felt the child was doubled up." It gave her great pain at the time, and from that period she had a firm conviction that something was not natural, and she thought it would be a cross birth. She could not give me the exact day when this happened. The fœtus all along "plunged in a very extraordinary manner" up to a few hours of its birth.

1. Does the circumstance above mentioned give a probable explanation of this abnormal state of things? An accidental injury to the soft fœtal head in the early months might possibly bring it about; but it seems a very mechanical solution of the difficulty, and one can hardly understand how an injury sufficient to produce such results should not induce the death of the fœtus at the time. Failing this explanation, we must fall back on an "arrest or error of development."

2. Was the term of utero-gestation prolonged beyond the natural period? I think so. The patient was quite positive of the date when she last ceased to menstruate, and had always been right in her previous labours; and we know that in the lower animals the period of carrying their young varies considerably. Dr. Jas. Reid, in a table of 500 cases on the "Duration of Pregnancy," counting from the last day of menstruation, gives 8 cases of delivery occurring in the 44th week, and 6 in the 45th week, from that date. The size of the fœtus, too, was much beyond the average; and Dr. Tyler Smith, in his Lectures, says, "The largest children I have met with in practice have been in cases where, from pendulous abdomen, the fœtus had been retained beyond the full term." In my patient the abdomen is of this conformation.

3. The full development of the size of the limbs, and their unusual strength and activity, are shown to be compatible with a very rudimentary condition of the cerebral hemispheres. Dr. Marshall Hall cites a remarkable case of a fœtus born "*without either brain or spinal marrow*, without a particle of either of these organs, *yet perfectly developed*;" but, as Dr. M. Hall says, such a fœtus "cannot breathe, it cannot live an instant." But in other cases, where only the brain is wanting, life sometimes continues for a few days, and food is taken, as happened in one of Mr. Hadaway's cases.

4. I do not believe this fœtus would have been born without rupture of the perineum had I not firmly supported it during the extraction of the shoulders. When a very large head has to pass, or very wide shoulders, I am convinced that supporting the perineum is of great importance, notwithstanding the high authorities that have lately called its usefulness in question. Everything, however, depends on the method in which it is employed, and especially on the direction in which pressure is made. If made *upwards* and *backwards*, it is in direct antagonism to the action of the uterus, and tends to *retard* labour; and such *in cases of rigid perineum and too rapid labours* is our object. But if, in ordinary cases, where the difficulty is simply from the bulk of the protruding part, while giving the perineum firm support, pressure is made *forwards*, and rather *downwards* than *upwards*, pressing the head or shoulders as near to the pubis as possible, I think it has much to do with preventing laceration, and that it even *assists* the passage of the part in question. At any rate, after nineteen years of midwifery practice, I have never had a case of more than very slight cracks in the perineum, and these almost entirely in primiparæ, where it is not infrequent; and till I see some more cause for altering the practice, I shall continue to *support the perineum*.—I remain, Sir, yours, &c.,

John-street, Berkeley-square, 1863. THOS. HENRY SMITH, M.R.C.S.

The Rev. Egerton Hammond.—The use of chloroform is occasionally dangerous to life, and should not, we think, be employed for trivial operations—that is, such as would produce comparatively little pain. Although our pages have recorded many deaths from chloroform, the number is exceedingly small as compared with that wherein this agent is, we may say, daily administered. Thousands of patients take chloroform without any inconvenience; yet here and there an instance will occur where it disagrees or proves dangerous. Again, much depends upon its careful and judicious administration by competent persons. There are some diseases also which are either obnoxious to the use of chloroform, or require great care in its employment —e. g., certain cardiac and pulmonary affections. We cannot recommend any special numbers of this journal for the information desired, as it is so widely scattered throughout our pages.

MR. PRATT'S LITHOTRITY FORCEPS.

To the Editor of THE LANCET.

SIR,—I read with much surprise in your last number a description of what is termed a "New Lithotrity Forceps."

Now, Sir, any instrument-maker of experience will tell you that it is a very old and well-known instrument for extracting fragments of stone from the urethra and bladder. I have made them for the last twenty years, and I believe one has been in the possession of the Middlesex Hospital since the time of Sir Chas. Bell. I have little doubt the senior surgeons of that hospital will corroborate what I now state.

I exhibited one at the Exhibition of 1851, and also at that of 1862, and there has been one in the collection at St. Bartholomew's for years past.

I do not know to whom the merit of the invention is due. The pattern was obtained from the Middlesex Hospital many years ago, and it was then an old instrument.

So much for the novelty of the instrument. As to its efficiency, I can bear testimony on this point, and think it the best extant for extracting fragments of stone, inasmuch as the hinge-form allows of being opened and shut without enlarging or disturbing the urethra, and the grasping power is great.

I trust you will insert this communication, as it is nothing but right that the profession should be informed that there is nothing new either in the form or application of the instrument.

I am, Sir, your obedient servant,

Gilt-spur-street, City, March, 1863. J. FERGUSON.

To the Editor of THE LANCET.

SIR,—Seeing in your impression of last week that Mr. Pratt, of Oxford-street, claims the construction of the new Lithotrity Forceps, we beg to say the same instrument was made twenty years ago for the removal of fragments of stone from the urethra and prostate gland. It was from this instrument Mr. Brooks constructed his instrument for plastic operations.

We are, Sir, your obedient servants,

Strand, March, 1863. JOHN WEISS AND SON.

*** The claim of novelty which Mr. Pratt makes for the forceps described is destroyed by the testimony to the contrary effect of Mr. Ferguson and Messrs. Weiss and Son. Probably Mr. Pratt will satisfactorily explain the matter. Re-discovery of instruments is no new thing.—ED. L.

A Subscriber.—1. The Medical Act entitles a Licentiate of the Faculty of Physicians and Surgeons of Glasgow practising in this country to the same privileges as if he still resided in Scotland.—2. He can style himself Doctor by courtesy.—3. The double qualification is preferred.

O. F. N., (Westmoreland.)—A graduate of a University should use the University costume only on state occasions, such as the presentation of an address to the Queen, &c., or at a meeting of the members of the University to which he belongs.

ARTIFICIAL MANURE.

To the Editor of THE LANCET.

SIR,—Can any of your correspondents inform me if there is any book published on the method of making the different kinds of artificial manure? Where it can be procured, and the price?

I am, Sir, your obedient servant,

March, 1863. H. H.

F.R.S.E.—Three fasciculi of Plates upon Diseases of the Skin have been published by the New Sydenham Society. Those joining the Society for the current year can, we believe, procure the fasciculi for the three former years on payment of a half subscription (10s. 6d.) for each. Our correspondent will not meet with any better representations than these of Hebra. The London version of them is commendable.

HEALTH OF ROTHERHAM.

To the Editor of THE LANCET.

SIR,—I beg to correct a statement made in your journal of last week respecting the "health of Rotherham."

Before the Local Board of Health was established here in 1853, the average rate of mortality in *the district* was 26 in 1000 living persons. Last year we had a fearful epidemic of typhoid fever, owing to a deficient supply of water, and in July, August, and September the mortality rose to 44 in 1000; but the general mortality of the district was 33. The average mortality for the last three years is 30—Sheffield being 28½; Barnsley, 25; and Chesterfield, 23.

I have received the following return of births and deaths during the last three years in the Rotherham district from the Superintendent Registrar, by which you will see that the births are nearly double the number of deaths:—

	Deaths.	Births.	Excess of births over deaths.
1860	380	758	368
1861	402	625	143
1862	629	944	215

The Board of Health is at present applying to Parliament for an Act to enable them to obtain an unlimited supply of water. When that is done, and the connexion between the sewers and houses cut off, I have no doubt Rotherham will become as healthy as any other manufacturing town of the same size.

I am, Sir, yours faithfully,

E. J. SHEARMAN, M.D.,

Rotherham, March, 1863. Medical Officer of Health.

Crystallographer.—1. The elements of crystallography, so far as they concern students of medical chemistry and materia medica, may be very well studied in the introduction to the new edition of Pereira's Materia Medica. Further information may be sought in the treatise in the British Cyclopædia or other special treatises.—2. Prof. Nevile Maskelyne.—3. Very good notions of the platonic forms and elementary characters of crystals may be obtained by the aid of the cheap and ingenious series of models published by Mr. Larkin, Old Brompton.

AN APPEAL FOR THE INNOCENTS.

To the Editor of THE LANCET.

SIR,—In your journal of the 7th instant occurs a paragraph to the effect that, during the year 1862, 761 children were registered as dying from teething in London.

Now surely, Sir, this is an egregious libel on Nature, which, as she is so much our friend, it is our duty, as medical men, to strive to defend her from. Can it be possible that 20,000 scientific men, who have daily opportunities of watching the wonderful workings of Nature, can quietly acquiesce in believing that she has made such a fearful and fatal mistake, as for one of her simplest developments—viz., dentition—to be the cause of such frightful slaughter? It is impossible! How many thousands, I would ask, have been in the same position as the writer frequently has?—having many times been obliged to certify the death as "teething," when they were being cut as quietly and comfortably as possible, feeling morally certain at the time that the teeth had no more to do with the cause than the development of the thigh-bone, or the growth of the hair on the scalp, and equally certain that the real cause lay in the wide-spread, cruel, and insolent habit of *improving* on Nature's food, but still not liking to register the child's death as resulting from baked flour or boiled bread, &c.

Oh! if the whole profession would but unite in exhorting mothers entirely to discontinue the use of all and every artificial food, and believe in God to the small extent that he knows best how to feed his own children, at any rate until they have some *grinders*, this blot would soon be wiped off the face of Nature by this column rapidly becoming a blank in the registrar's book, and the long-endured but most unmerited stigma removed from,

Your obedient servant,

March, 1863. INCISOR.

E. E.—Dr. Barnes's instruments for the dilatation of the cervix uteri may be obtained from Messrs. Weiss, Strand; Mr. Millikin, St. Thomas's-street; and most other instrument-makers.

Dr. R. H. S. Carpenter, (Durham.)—Publication of the communication would answer no good purpose.

TREATMENT OF PSORIASIS INVETERATA.

To the Editor of THE LANCET.

SIR,—Would you kindly inform me, through the medium of your journal, of the most successful treatment of psoriasis inveterata. I have under treatment a case which has baffled my skill. Mercury, arsenic, iodide of potassium, iodine, sulphur, oil of tar, nitric acid, have been administered without any beneficial result. Perhaps some of your old experienced subscribers might suggest some remedy that might bring about a cure. Turkish baths have also been largely administered.

I remain, Sir, yours, &c.,

Belfast, March, 1863. JAMES BOYD, Surgeon.

D. F. had better apply at the office of the Director-General of the Naval Medical Department, Somerset House, where he will obtain full information on the subject.

MEDICAL PRACTITIONERS AND THEIR ASSISTANTS.

To the Editor of THE LANCET.

SIR,—In your impression of March 7th, you drew attention to the liability of medical men for the acts or mistakes of their assistants. I would suggest that they have the remedy to a great extent in their own hands: by a more liberal treatment and remuneration, and a due regard to their comfort, thereby inducing a better class to hold such appointments. I am an assistant in a large private practice, and have to superintend a learner, and yet, while very busy, I have to leave him to do the work of a door porter. Should any mistake occur during my absence, ought I to be answerable? I think not, but my employer for his bad management of duties.—I remain, Sir, yours, &c.,

London, March, 1863. A TEN YEARS' ASSISTANT.

COMMUNICATIONS, LETTERS, &c., have been received from—Dr. Hughes Bennett; Mr. Henry Thompson; Dr. Tilt; Mr. Kempster; Mr. Collins; Mr. Evans, Liverpool, (with enclosure;) Mr. Simpson; Mr. Brooks, Odiham, (with enclosure;) Mr. O'Leary, (with enclosure;) Mr. Corfield; Mr. Philpotts, Rinkoney, (with enclosure;) Messrs. Mappin Brothers; Mr. J. Procter, Tunstall, (with enclosure;) Mr. Hastings, Liverpool, (with enclosure;) Mr. Dawson, Brentwood, (with enclosure;) Mr. Fayle, Chatham; Mr. Earle; Mr. Lacy, Cork, (with enclosure;) Mr. Moore, Buntingford, (with enclosure;) Mr. J. Little; Mr. Taylor, Derby; Mr. Smith, Burbage; Dr. Constable, Lochars, (with enclosure;) Mr. Lownds, Walker, (with enclosure;) Dr. M. Groves, Narberth; Dr. Wade, Birmingham; Mr. Lloyd; Mr. Ferguson, Bridlington; Dr. Fisher, Terrington; Dr. Newman, Stamford, (with enclosure;) Mr. Hodges, Sudbury, (with enclosure;) Mr. G. Jameson, Caistor, (with enclosure;) Dr. Furnivall; Mr. Alison; Mr. G. Harries; Mr. Marshall; Mr. Fernandes, Isleham; Mr. Ellis, (with enclosure;) Rev. E. Hammond; Mr. Cooper, West Stockwith; Mr. Andersall, South Shields, (with enclosure;) Mr. Pressgrave, Leeds, (with enclosure;) Mr. Hillyard, (with enclosure;) Mr. Tudor, Dorchester; Mr. A. Kelly; Dr. Houfray, Gainford; Dr. A. Smith; Mr. M'Lane, Dublin; Dr. J. O'Malley, Malta; Mr. Leslie, Coonoor; Mr. Ellis, Crowle; Mr. Cullingford, Portsea, (with enclosure;) Mr. Boyd, Belfast; Mr. Carlisle, Stockport, (with enclosure;) Mr. T. Waite; Dr. Russell, Birmingham, (with enclosure;) Dr. Shearman, Rotherham; Dr. Davidson, Edinburgh, (with enclosure;) Mr. J. Harland, (with enclosure;) Dr. M'Nab, Inverness; Rev. H. Thomson, Tynemouth; Dr. Davey, Bristol; Dr. Tessier; Mr. G. Scott, Southampton; Mr. Sutton, Timberland; Mr. Garland, Kingston; Messrs. Weiss and Son; Mr. J. Ferguson; M. A. B.; Medicus, (with enclosure;) Alfred, (with enclosure;) One who has Weathered the Storm; Medical Society of London; X. Y. Z., (with enclosure;) W. H., (with enclosure;) Apothecaries' Hall; E. E.; &c.